CU consumer reports

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in this issue:

You and CU

Consumers Union is a democratically controlled nonprofit organization which was established for one purpose: to serve the needs of people as consumers. To this end, CU's bylaws provide that everyone who subscribes to CU publications shall have the right to vote in the annual elections to the CU Board of Directors.

The bylaws also provide that the Board shall submit to all subscribers, along with the ballot, a questionnaire designed to elicit their advice on CU's work, and to supply the CU Board and Staff with information about the individual subscribers. This information permits CU's investigations and reports to be organized and directed so as best to meet the needs of subscribers.

Your views and the views of other readers, as expressed in past years' questionnaires, have been largely responsible for the recent changes in the content of the *Reports*. What further changes will be made will depend largely on this year's answers. The ballot and questionnaire will go into the mails early in May. Every reader is urged to study the list of nominees, and to cast his ballot for those he considers best fitted to direct the policy of the organization during the coming years; and then to spend the ten or fifteen minutes necessary to give the information requested in the accompanying questionnaire.

If the specific questions do not give you the opportunity to express your views or state your wishes, use the blank space provided to have your say.

Committees appointed by the Board of Directors will study both the answers to the questions and the additional comments and suggestions, and report their findings to the full Board. These reports will determine to a large extent the organization's policy for the coming twelve months.

Don't pigeonhole your ballot and questionnaire.

Fill them in and mail them!

subscription fees are $5 a year for the monthly Reports and the annual Buying Guide Issue. $8.50 for two years. (For foreign and Canadian subscriptions add 50¢.) Reduced subscription rates are available for groups of five or more (write for details).

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Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental and private laboratories. Samples for test are obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is CU's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.

Mechanical Refrigerators

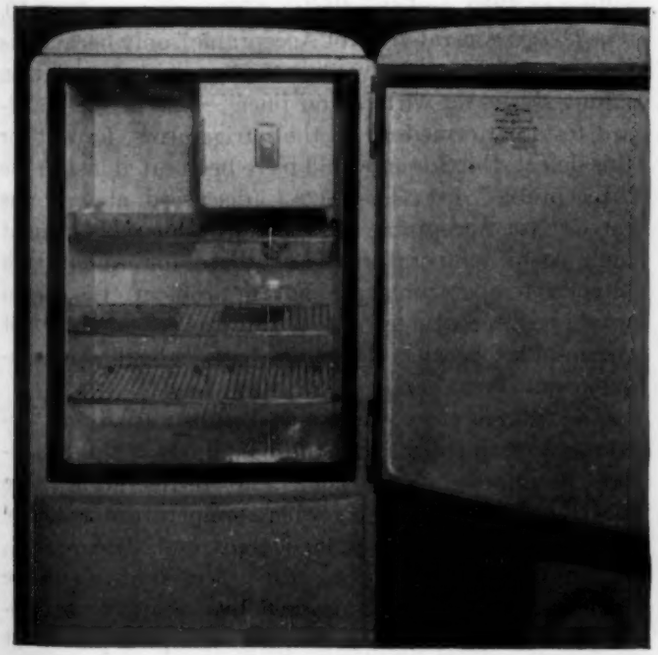
Laboratory tests of 11 electric and one gas refrigerator show a number of good models with few innovations

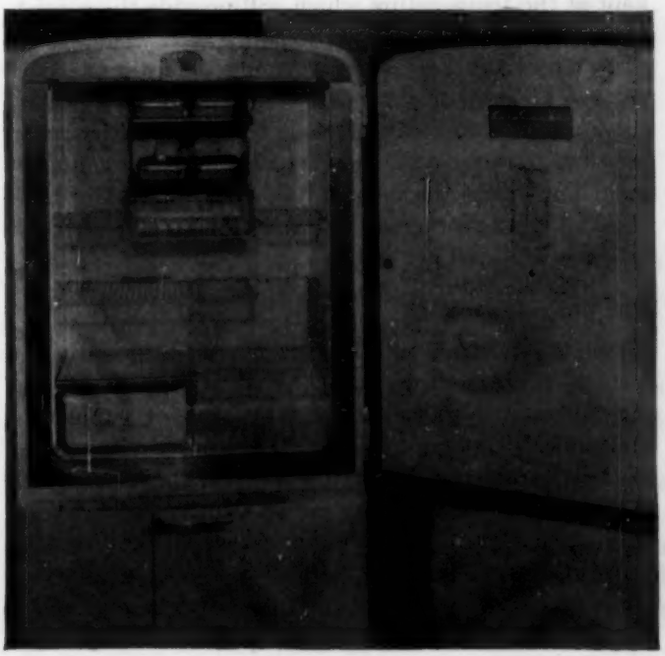
You can now get a refrigerator with a special supercooling compartment to freeze foods and keep them frozen; or you can get one with a special heated compartment to keep the butter from getting too cold. These two features represent just about everything there is in the way of recent innovations in the household refrigerator market.

Most of the 12 postwar mechanical refrigerators tested by CU bear about the same relationship to prewar refrigerators that most postwar automobiles bear to the prewar cars: the prices are way up, there are differences in decoration and in minor mechanical features, but essentially, the postwar product is just about the same as the prewar. And this means that the postwar refrigerators are generally good, efficient household instruments, economical to operate once you get past the high first cost.

The *Admiral Dual-Temp* was the one outstandingly new refrigerator among those tested. Of its seven cubic feet of storage space, a little over one and one-half cubic feet were devoted to a freezing compartment in which temperatures as low as 16 degrees below zero could be obtained with a room temperature of 90 degrees. For those who want to freeze their own foods in moderate

The two "Best Buys" in refrigerators on the basis of both price and quality are the General Electric *LB7-B (left) and the* Kelvinator *C-7-R (right). Both sell for under $200, have fairly fast ice-freezing speeds and low monthly operating costs. On the basis of quality alone, the* GE *was one of the best tested.*





quantity or to keep relatively large quantities of home-frozen or commercially frozen foods on hand — in other words for those who want freezing space or frozen food storage space, but who don't want a separate kitchen freezer — the *Admiral Dual-Temp* offers a convenient compromise — if they can afford to pay $375.

The *Admiral* offers another excellent feature which was introduced in the *Frigidaire* before the war — cold wall cooling of the regular storage space in place of the conventional evaporator coils enclosing the ice-cube compartment. Evaporator coils operate at below-freezing temperatures in order to cool the refrigerator adequately, and the air in the refrigerator gives up most of its moisture to the coils, where the moisture is deposited as frost. Because the area of the cold walls is much greater than the area of evaporator coils, the temperature of the walls need not go below freezing to provide adequate cooling, with the result that less moisture is taken from the air. This, in turn, means less drying out of foods kept in the refrigerator. While the *Admiral Dual-Temp* does not have to be defrosted, moisture does condense on the cold walls and drip into a tray at the bottom of the refrigerator. The *Admiral* also has an ultraviolet lamp which is supposed to kill bacteria, destroy odors and retard mold growth. CU has made no tests of this feature, but for use in a refrigerator CU's medical advisers consider it of no significant value.

If you like to have your butter always at good spreading consistency, and are willing to spend about $2.50 a year for extra electricity to accomplish this result, the de luxe *General Electric* refrigerator may be the one for you. This *GE* refrigerator has a compartment big enough to hold a pound of butter, and by means of a 6-watt heater and a special thermostat, the butter is kept at the temperature which will provide the consistency you happen to like.

The cost of the butter warming operation is only partly the cost of the energy for the 6-watt heater; there is also the cost of the additional refrigeration required to remove the heat which the butter compartment pours into the refrigerator. It is the sum of both these costs at average electric rates which CU engineers estimate at $2.50 per year.

One gas refrigerator

One gas refrigerator, the *Servel*, was included in the tests. Gas refrigerators have the advantage of containing no moving parts, hence they are not subject to mechanical troubles, nor do they get noisy with age, as electric refrigerators sometimes do. On the other hand, the *Servel* R-600, like its prewar counterpart, was the only one of the refrigerators tested which could not be brought down to less than 53 degrees F. with a test room temperature of 110 degrees. While 110 degrees is not a normal kitchen temperature, on hot summer days with the oven in use many kitchens approach or exceed this temperature. Furthermore, the test conditions did not include the frequent opening of the refrigerator door or the putting away of warm foods which characterize normal use. In addition, the relative operating cost of the *Servel* at the typical rate of $1 per 1000 cubic feet of manufactured gas was higher than that of any of the conventional electric refrigerators tested, at the rate of five cents per kilowatt hour.

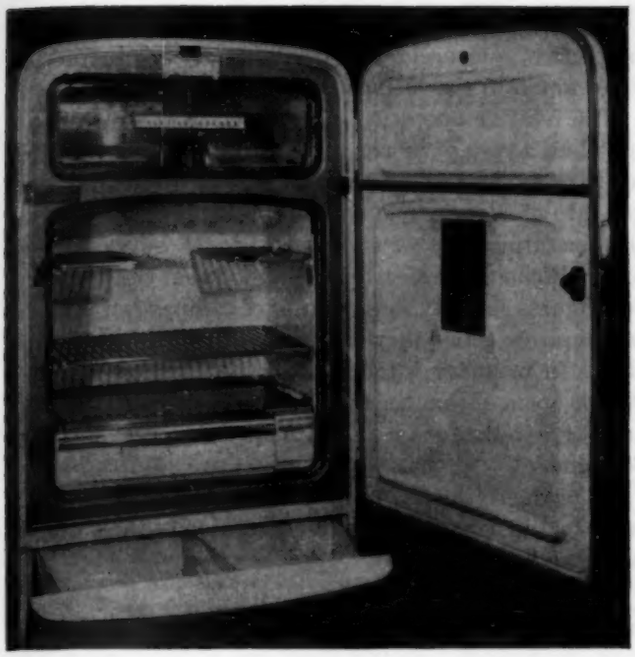
Many refrigerator companies supply both "de luxe" and "stripped" models. While the two models of the same make carry different model numbers, their construction is essentially the same. Aside from a substantial difference in price the two models vary only in convenience features, the "de luxe" model having meat tray, vegetable tray, adjustable shelves and other accessories lacking in the "stripped" model. The "de luxe" model is also likely to have a good deal of chromium trim which serves only to help justify the higher cost.

The top ratings

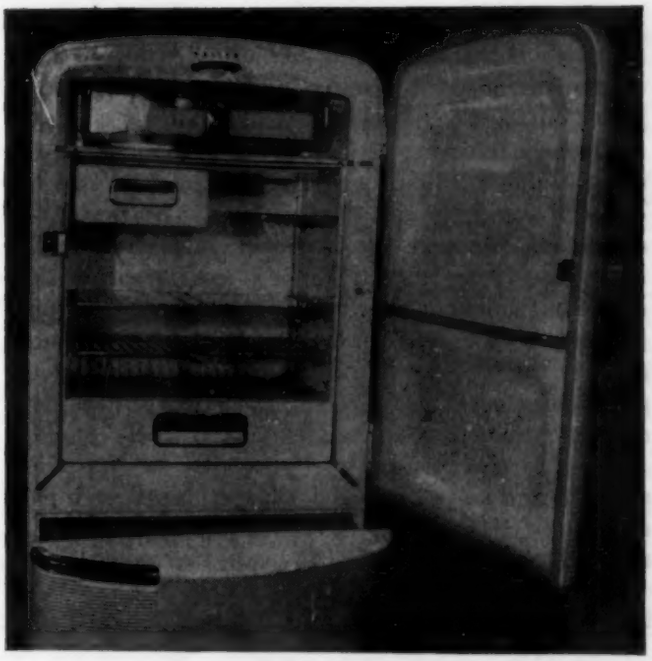
The results of the laboratory tests gave top quality rankings to the *Westinghouse* B-7-46, selling for $224.95, the *General Electric* LB7-B, selling for $188.75, and the *General Electric* B7-C, selling for $262.75 (the de luxe version of the first mentioned). These three refrigerators were judged to be about equal in over-all quality. On the basis of price as well as quality the "Best Buys" among the refrigerators tested were considered to be the *General Electric* LB7-B, and the *Kelvinator* C-7-R, selling for $199.95.

Only three refrigerators of those tested were considered "Not Acceptable." These were the *Gibson* F-786, selling at $277, the *Servel* R-600 gas refrigerator, selling at $259, and the *Philco* A751, selling at $299.50. The *Gibson* was rated "Not Acceptable" only because its interior finish turned yellow and rough after fifteen minutes' contact with lemon juice — one of the standard tests performed on all the refrigerators. Except for this defect, the *Gibson* would have been rated last in the "Acceptable" list. The *Servel* (discussed above) was rated "Not Acceptable" because of its poor showing at high room temperatures. For those for whom high kitchen temperatures are not a problem, the *Servel* would be "Acceptable." The *Philco* was considered "Not Acceptable" because it did not have enough refrigeration capacity to handle extra heavy loads.

The refrigerators were tested substantially in accordance with the standard test methods of the American Standards Association. The refrigerators were placed in special test rooms where temperatures could be maintained at 70 degrees, 90 degrees, or 110 degrees F., as required for the various tests. Temperatures inside the refrigerators were measured by means of thermocouples with at least four thermocouples placed at



The Admiral Dual-Temp, *above, was the only outstandingly new refrigerator among those tested. It has a fast-freezing compartment and a cold-wall cooling system.*



The similar-appearing compartment in the Philco *A751, above, cannot be used to freeze foods — only to store them. This model was unable to handle extra-heavy loads.*

standard locations within each refrigerator. Each refrigerator was allowed a run-in period of a few days before tests were begun.

In the tests each refrigerator was operated unloaded with its thermostat set at the warmest position, the coldest position, and the "normal" position. Runs at all three thermostat positions were repeated for each of the three standard room temperatures (70°, 90°, and 110° F.), a total of nine test runs for each refrigerator. During these runs, records were made of the temperatures of the several thermocouples, of the power consumption, and, except for the gas refrigerator, of on-and-off cycles, and the length of time the refrigerator motor was actually working.

From the temperature and power consumption figures, calculations were made of the power consumption that would have resulted if the thermostats had been set to give standard inside temperatures. These inside temperatures, as stipulated by the American Standards Association, are 38 degrees at 70 degree room temperature; 43 degrees at 90 degree room temperature; and 46 degrees at 110 degree room temperature. These calculations made it possible to compare operating costs of the different refrigerators for the same theoretical inside temperatures.

The ice-cube making performance of each refrigerator was tested only at the 90 degree room temperature. The test consisted of a measurement of the time required to freeze all the ice cubes in the refrigerator. This time varied from less than two hours for those refrigerators described in the ratings as "fast ice freezers" to more than five hours for those described as "slow ice freezers." About seven pounds of ice cubes was considered a full load.

In most of the refrigerators, the maximum temperature at the warmest thermostat setting was lower than is required for safe storage of food. These maximum temperatures are indicated in the ratings. Higher inside temperatures would permit greater economy in the operation of the refrigerators. In none of the refrigerators did a fixed thermostat position maintain a constant inside temperature as the room temperature was varied between 70 degrees and 110 degrees. The maximum variation in all except the *Servel* was about 10 degrees. In the *Servel* the variation was 21 degrees.

Adjustable shelves

One desirable convenience feature — adjustable height of shelves — was found in only two of the refrigerators tested — the *General Electric* B7-C and the *Servel*.

The space for milk bottles mentioned in the ratings is based on the number of round one-quart bottles that can be stored, without removal of any of the shelves.

Seven of the twelve refrigerators provided a non-refrigerated dry bin at the bottom. While some housewives would find this storage space useful, it must be remembered that the temperature of the dry bin would be higher than room temperature because of the presence of the motor and the radiator behind the bin.

While none of the door handles was difficult to operate, the door handle of the *Westinghouse* was especially convenient, since it opened the door whether it was pulled outward or pushed to either side.

All of the refrigerators had sealed motor and compressor assemblies. All but one of the refrigerators used one of the Freon gases as the refrigerant. The *Servel* used ammonia. Although the likelihood of leakage of the refrigerant is very slight, Freon is less hazardous than ammonia, should leakage occur. Freon is normally nonpoisonous, though it does decompose into poisonous gases in the presence of a flame. Exposure to ammonia gas in high concentrations can be seriously hazardous and, in extreme cases, fatal.

None of the refrigerators presented any electrical shock hazard and all passed a 900-volt insulation breakdown test. However, it is still advisable to have the refrigerator grounded.

All refrigerators had an inside lamp which was well-protected from accidental breakage except in the few cases noted in the ratings.

The relative operating costs given in the ratings are based on a rate of 5¢ per kilowatt hour, with the figure for the *Servel*, as noted above, based on a manufactured gas rate of $1 per 1000 cubic feet. In natural gas areas the operating cost of the *Servel* would be very much lower. It should be clearly understood that the operating cost figures are only for purposes of comparison between refrigerators, since they represent "no-load" test conditions. In ordinary kitchen use, where the refrigerator door is opened from time to time, and where warm foods are put into the food compartment, the actual cost may be higher.

All of the refrigerator models tested were about seven cubic feet in capacity with the exception of the six cubic foot *Servel*.

Refrigerator ratings

Refrigerator with special freezing compartment

acceptable

■ — ADMIRAL DUAL-TEMP TD-746 (Admiral Corp., Chicago). $374.95. Separate temperature controls for the freezer and general-storage compartments. Frozen-storage volume 2760 cu. in. (1.6 cu. ft.) out of 7 cu. ft. total storage space. Freezer temperature adjustable from plus 21° to minus 16° F. with a 90° room temperature. Average ice-freezing speed. Relative operating cost higher than that of conventional refrigerators — $1.94 per month. Because of "cold-wall" construction (see text), the whole general-storage compartment operates at a relatively high humidity as compared with conventional refrigerators. For the same reason no defrosting is necessary, and the water condenses continuously and drips into a convenient drip drawer at the bottom of the refrigerator. Refrigerator had an ultraviolet lamp for which the claim was made that it kills bacteria, controls odors, retards mold growth, etc. Insulation claimed: pressure-formed balsam wool. Refrigerant claimed: Freon F-12. It was impossible to run the general-storage compartment at warmer than 39° with a 70° room temperature. Shelf area was average size — 12.6 sq. ft. Room for about 15 milk bottles. Small dry-storage bin under refrigerator (about 1.1 cu. ft.). Accessories: 1 large ice-cube tray, 2 small; 1 vegetable drawer, 1 drip tray (for condensed water). Ice-cube trays have device for loosening trays, but it was judged not very effective; device for ice-cube removal. Condenser not readily accessible for cleaning. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature and "Normal" freezer setting was 56%). Inside light poorly protected against breakage. Over-all dimensions 59 x 30⅜ x 28⅜ inches deep.

Conventional refrigerators

best buys

The following refrigerators were judged to offer the best value for the money taking into account over-all quality, price and economy of operation.

■ ■ — GENERAL ELECTRIC LB7-B (General Electric Co., Bridgeport, Conn.). $188.75. Frozen-storage volume 1000 cu. in. (0.6 cu. ft.) out of 7 cu. ft. of total storage space. Fast ice-maker. It was impossible to run the general-storage compartment at higher than 40° F. with a 70° room temperature. Normal frozen-storage temperature about 25°. Shelf area 12.6 sq. ft. Room for 9 milk bottles. No dry storage bin. Accessories: ice-cube trays, shallow combination meat and drip tray. Ice-cube trays had a device for breaking them loose and for releasing ice cubes two at a time. Condenser easily accessible for cleaning. Insulation of sample tested: top — Thermocraft (paper); sides — Fiberglas. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature was only 40%). Refrigerant claimed: Freon F-12. Relative operating cost very low — $1.04 per month. Over-all dimensions 59 x 30¾ x 27½ inches deep.

■ ■ — KELVINATOR C-7-R (Nash-Kelvinator Corp., Detroit). $199.95. Appeared to be very similar to *Leonard* DL-7-R below except for size of evaporator and accessories. Frozen-storage volume 1010 cu. in. (0.6 cu. ft.) out of 7 cu. ft. of total storage space. Average ice-freezing speed. It was impossible to run the general-storage compartment at higher than 44° F. with a 70° room temperature. Normal frozen-storage temperature about 34°, which is higher than freezing temperature; to obtain ice cubes or keep foods frozen at 90° room temperature, one would have to set the thermostat to colder than normal. Shelf area 12.2 sq. ft. Room for about 16 milk bottles. Large dry storage bin under the refrigerator — about 1.9 cu. ft. Accessories: ice-cube trays, vegetable drawer, meat drawer. Ice-cube trays had a device for breaking them loose. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature was 52%). Refrigerant claimed: Freon F-12. Relative operating cost was average — $1.75 per month. Over-all dimensions 58 9/16 x 31 5/16 x 26 9/16 inches deep.

acceptable

The following refrigerators are listed in estimated order of over-all quality with operating cost considered one of the factors affecting quality.

The following three refrigerators ranked about equally.

■ — WESTINGHOUSE B-7-46 (Westinghouse Electric Corp., Mansfield, Ohio). $224.95. Frozen-storage volume 990 cu. in. (0.6 cu. ft.) out of 7 cu. ft. of total-storage space. Slow ice-freezer. It was impossible to run the general-storage compartment at higher than 38° F. with a 70° room temperature. Shelf area 12.4 sq. ft. Room for about 9 milk bottles. Dry storage bin under the refrigerator. A most convenient door handle which can be opened by pressure from front or either side. Accessories: 4 medium and 1 large ice-cube tray, meat drawer, vegetable drawer. Thermostat calibrated in temperature degrees; CU considers this undesirable

because it leads the consumer to expect that those are the temperatures that he will get in the refrigerator. Actually, the temperature in the refrigerator is largely dependent on room temperature in this as in every other refrigerator. Ice-cube trays had a device for breaking them loose and for removing individual ice cubes. Fiberglas insulation claimed. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature was less than 40%). Refrigerant claimed: Freon F-12. Poor access to condenser for cleaning purposes. Relative operating cost very low — $1.08 per month. Over-all dimensions 57⅝ x 30¼ x 26⅝ inches deep.

■ — GENERAL ELECTRIC B7-C (General Electric Co.). $262.75. This is a de luxe version of the LB7-B above. It was identical with the LB7-B in all respects except as follows: Shelf area was average size — 14.2 sq. ft. One shelf adjustable to either of two positions so as to increase or decrease the height of two shelf spaces. Room for about 15 milk bottles. One-pound butter compartment with a small (6-watt) heater and adjustable thermostat to keep butter cool but soft enough to spread. At the rate of 5¢ per kwh, the cost of running the butter compartment will be around $2.50 per year (see text). The coldest position of the butter thermostat is, of course, the most economical. Accessories: 4 ice-cube trays, 2 vegetable drawers, butter tray, meat drawer, thermometer built into the door.

■ ■ — GENERAL ELECTRIC LB7-B. $188.75. (See "Best Buys.")

The following five refrigerators ranked about equally.

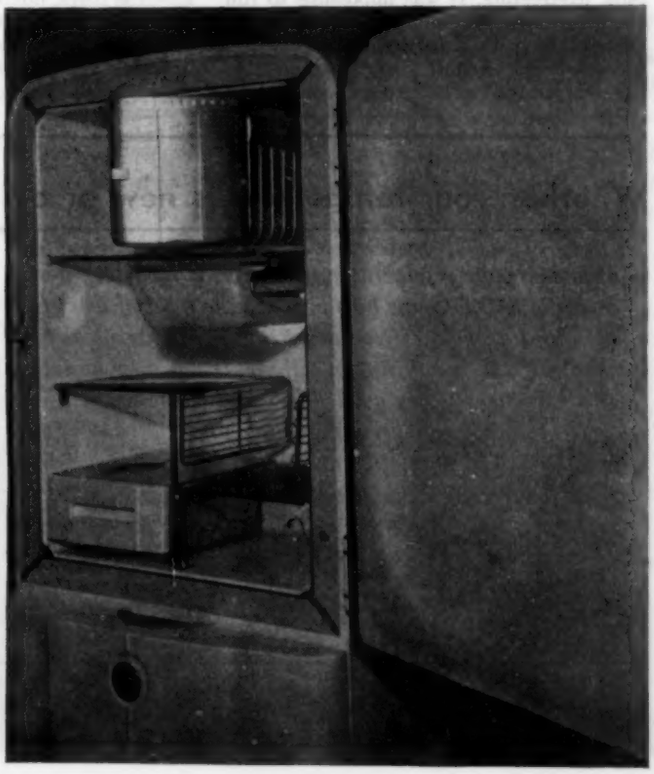
■ ■ — KELVINATOR C-7-R. $199.95. (See "Best Buys.")

■ — LEONARD DL-7-R (Nash-Kelvinator Corp., Detroit). $229.95. Appeared to be very similar to *Kelvinator* C-7-R above except for size of evaporator and accessories. Frozen-storage volume 1300 cu. in. (0.8 cu. ft.) out of 6.8 cu. ft. of space. Slow ice freezing. It was impossible to run the general-storage compartment at higher than 44° F. with a 70° room temperature. Net shelf area 13.1 sq. ft. Room for 9 milk bottles. Large dry storage bin under the refrigerator — about 1.8 cu. ft. Accessories: 4 average size ice-cube trays, meat tray, two vegetable drawers, two folding shelves. Ice-cube trays had a device for breaking them loose and for removing individual ice cubes. Condenser accessible for cleaning. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature was 52%). Refrigerant claimed: Freon F-12. Relative operating cost was average — $1.50 a month. Over-all dimensions 58⁹⁄₁₆ x 31⁵⁄₁₆ x 26⅛ inches deep.

■ — CROSLEY SS-746 (Crosley Corp., Cincinnati). This is the refrigerator with additional shelves in its door (Shelvador) — an excellent convenience. Net frozen-storage volume 970 cu. in. (0.6 cu. ft.) out of 7.3 cu. ft. of total storage space. Average ice-freezing speed. It was impossible to run the general-storage compartment at higher than 39° F. with a 70° room temperature. Normal frozen-storage temperature about 31°. Net shelf area 13.8 sq. ft. Room for 8 milk bottles. No dry storage bin. Accessories: 4 average size ice trays, meat tray. Device for breaking loose the ice trays; but only 1 ice tray had device for loosening ice cubes. Rock wool insulation claimed. Adequate refrigeration capacity (running time at 110° room temperature with 46° general-storage temperature was 55%). Refrigerant claimed: Freon F-12. Relative operating cost high — $1.74 per month. Over-all dimensions 60½ x 30¾ x 24⅞ inches deep.

■ — FRIGIDAIRE MI-7 (General Motors Corp., Dayton, Ohio). $199.75. Net frozen-storage volume 969 cu. in. (0.6 cu. ft.) out of 7 cu. ft. net total storage space. Slow ice-freezer. General-storage compartment could be run as high as 46° F. with a 70° room temperature. Net shelf area 12 sq. ft. Room for 8 milk bottles. No dry storage bin. Accessories: 1 large and 2 average size ice-cube trays, meat drawer, small vegetable drawer. Devices for breaking loose the ice-cube trays and for loosening the ice cubes. Condenser accessible for cleaning. Adequate refrigeration capacity (running time at 110° room temperature with 46° general-storage temperature was 60%). Refrigerant claimed: Freon F-114. Relative operating cost was

The General Electric *B7-C (left) and the* Westinghouse *(right) along with the* General Electric *LB7-B rated highest in over-all quality in CU's tests. The B7-C differs from the* GE *LB7-B only in minor details.*



average — $1.56 per month — despite the claim that its "Meter-Miser" compressor "cuts current cost" in half. Over-all dimensions 60 x 30 1⁵⁄₁₆ x 25 5⁄₁₆ inches deep.

■ — PHILCO A-721 (Philco Corp., Philadelphia). $219.50. Frozen-storage volume 904 cu. in. (0.5 cu. ft.) out of 7.1 cu. ft. total storage space. Average ice-freezing speed. It was impossible to run the general-storage compartment at higher than 40° F. with a 70° room temperature. Normal frozen-storage temperature about 24°. Net shelf area 14 sq. ft. Room for 9 milk bottles. Large dry storage bin under the refrigerator — 2 cu. ft. Accessories: 4 average size ice trays, meat tray, small vegetable drawer. No device for breaking loose the ice-cube trays; device for removing cubes. Adequate refrigeration capacity (running time at 110° room temperature with 46° general-storage temperature was 44%). Refrigerant claimed: Freon F-12. Cabinet light not protected against breakage although it is located in the top where such breakage is less likely than in the usual position in the back of the refrigerator. Relative operating cost was average — $1.47 per month. Over-all dimensions 54 x 30 x 27 inches deep.

not acceptable

o — GIBSON F-786 (Gibson Refrigerator Co., Greenville, Mich.). $277. "Not Acceptable" because finish turned yellow and rough after 15 minutes' contact with lemon juice. Otherwise would have rated last in the "Acceptable" list. Evaporator and meat shelf occupy the full width of the cabinet. Frozen-storage volume 1100 cu. in. (0.6 cu. ft.) out of 6.7 cu. ft. of total storage space. Slow ice-freezing. It was impossible to run the general-storage compartment at higher than 44° F. with a 70° room temperature. Net shelf area 14 sq. ft. Normal frozen-storage temperature at 90° room temperature and 43° cabinet temperature was 28°. Room for 8 milk bottles. Large dry storage bin under the refrigerator — about 1.8 cu. ft. Accessories: 2 standard ice-cube trays and 1 double-width ice-cube tray; vegetable drawer; separate defrosting jar (not tray). Ice-cube trays had a device for breaking them loose and for removing ice cubes. Fiberglas insulation claimed. Adequate refrigeration capacity (running time at 110° room temperature with a 46° general-storage temperature was 47%). Refrigerant claimed: Freon F-12. Relative operating cost was average — $1.71 a month. Over-all dimensions 61 1⁵⁄₁₆ x 30 1⁄₈ x 27 5⁄₁₆ inches deep.

o — SERVEL R-600 (Servel, Inc., Evansville, Ind.). $259. This is a 6 cu. ft. gas refrigerator. With a 110° F. room temperature, the inside temperature could not be brought down to less than 53°. At room temperature of 100°, however, and thermostat set at coldest position, the average general-storage temperature could be kept at 45°. The relative operating cost of the *Servel* at $1 per 1000 cu. ft. of gas was $1.88 per month — higher than any of the "Acceptable" electric refrigerators tested at 5¢ per kwh electric charge. Frozen-storage volume 657 cu. in. (0.4 cu. ft.) out of 6.3 cu. ft. of total storage space. Slow ice-freezer. It was impossible to run the general-storage compartment at higher than 41° with a 70° room temperature. When room temperature was raised from 70° to 110°, the general-storage temperature went up 21°. Normal frozen-storage temperature 25°. Net shelf area 13.2 sq. ft. Two shelves adjustable to 2 heights each. Space for 2 milk bottles (more if shelves are removed). No dry storage bin. Accessories: 5 average size ice-cube trays, double-decker ice-cube tray, meat tray, two small vegetable drawers. The average size ice-cube trays had means for breaking loose the trays and for removing the ice cubes. The total ice-cube capacity is larger than one would normally use. There was virtually no access to the condenser from the front; access at the rear by unscrewing the back. Refrigerant claimed: ammonia. Over-all dimensions 59 7⁄₈ x 31 5⁄₈ x 26 3⁄₄ inches deep. "Not Acceptable" because of poor regulation and because with 110° room temperature the average general-storage temperature could not be brought down to less than 53°.

o — PHILCO A751 (Philco Corp.). $299.50. Frozen-storage volume 1420 cu. in. (0.8 cu. ft.) out of 6.7 cu. ft. of total storage space. Fastest of all refrigerators tested on ice-making. It was impossible to run the general-storage compartment at higher than 43° F. with a 70° room temperature. The lowest general-storage temperature with a 110° room temperature was 48°, 2° warmer than the standard temperature for 110° room stipulated in the A.S.A. standard. Normal frozen-storage temperature about 14°. Large shelf area — 14.7 sq. ft. Room for only about 5 milk bottles. Medium size dry storage bin under refrigerator — about 1.6 cu. ft. Accessories: 4 average size ice-cube trays, meat drawer, vegetable drawer. Ice-cube trays had no device for breaking them loose; device for ice-cube removal. Condenser not readily accessible for cleaning. Sliding glass shelves in the middle of the refrigerator make it possible to run a portion of the refrigerator at high humidity while its temperature is kept down by means of a large refrigerated shelf which does not require defrosting. "Not Acceptable" because of inadequate refrigeration capacity; despite 100% running time, at 110° room temperature, the general-storage compartment of the refrigerator went down only to 48° (instead of standard 46°). Refrigerant claimed: Freon F-12. Very high operating cost — more than $2.20 a month with door continuously closed. Over-all dimensions 58 3⁄₄ x 30 x 27 1⁄₄ inches deep.

Whether your refrigerator is new or old:

Whether your refrigerator is a prewar model or a new one, it's well to know how to make the most of what it is able to do. Most refrigerators don't provide ideal temperature and humidity conditions, but proper handling will help food retain good flavor and color.

Keep your refrigerator clean, and the food in it covered and, if possible, uncrowded; try to leave plenty of room for free air circulation. After one day in the refrigerator, butter and milk — if they are not properly covered — can smell and taste like fish, melon or vegetables.

Some things can be left out of the refrigerator to keep it from being overloaded. For example, fresh fruit, sugar-preserved food and dried fruit keep well without refrigeration.

Except for frozen salads and desserts, the freezing of fruits, vegetables, meats and other foods in the ice-cube compartment is not recommended because the temperature is not sufficiently low for fast freezing.

Be kind to your refrigerator. Keep the door shut and the rubber gasket clean. Let hot food cool off before storage. Defrost when ice on the freezing unit is ¼-inch thick. And give the condenser (behind or underneath the refrigerator) an occasional brushing to remove accumulated dust.

Two Television Receivers

CU rates two RCA models "Acceptable" despite faults; but television programs have little to offer

The opponents of color television have, for the time being, won out, and consumers who want television sets can now judge black-and-white television on its merits without worrying about the quick arrival of color on the market. In all probability the advent of color television is at least five years off. The rejection of color came in a recent ruling by the Federal Communications Commission, refusing the request of the Columbia Broadcasting System for standardization of color television on the grounds that it is not yet ready for the market. The defenders of black-and-white television heaved a sigh of relief and began whooping it up for a bigger and better black-and-white market.

Choice is limited

As to the present status of black-and-white television from the consumer point of view, the choice of receivers is very limited, and so is the choice of programs. This is a report on two new television receivers, the 7-inch tube and the 10-inch tube *RCA* table models. A *Dumont* receiver is now being tested, and will be reported on in a later issue. More receivers are coming into the stores and still more will arrive in the coming months, but whether there will be any significant improvement in programs is questionable.

According to some people in the industry, advertisers haven't sufficient money to pay for the type of continuous programs that will be necessary to make the public buy television receivers by the millions. And with commercial broadcasting, since sponsored programs must in the long run pay their way, advertisers won't have the money to pay for first class programs until there are millions of receivers in the nation's homes. The chances are that television will be in for a relatively long period of slow development with little promise of significant program improvement for some time to come.

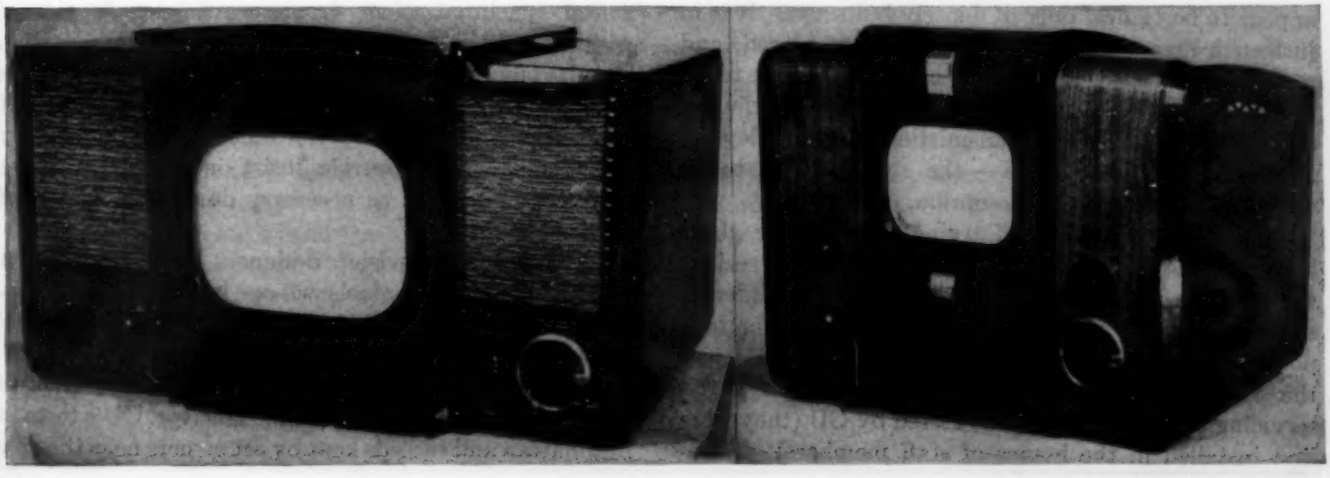
At present there are few television stations and these few are for the most part confined to large cities. New York City, for example, now has three transmitters generally broadcasting only in the evenings, with only one station on the air some evenings. The program material presented by the New York stations is very limited as there are no live musicians on the programs; only rarely is a standard radio program televised; and a prominent feature is the showing of ancient Grade B movies, mostly Westerns.

Television advertising

The acting, with few exceptions, is of the "ham" variety, and the advertising is visually and verbally obnoxious, again with a few exceptions.

Regrettably, advertising can sink much lower visually than verbally. Combined sight and sound, ballyhooing well-known products, may well turn the American radio

Left, the RCA *630TS table model television receiver, selling for $425, including installation; and right, the* RCA *621TS receiver, selling for $295, including installation. If you want a television set now despite limitations affecting both reception and programs, both these sets will do an acceptable job — provided you are properly located in relation to television stations. Neither set is equipped to receive ordinary sound broadcasts.*



stomach. It's one thing to listen to a comedian imploring you to buy a toothpaste — you realize that he's just reading his lines — but to see him looking at you, sincerity shining in his eyes when he implores you to buy his sponsor's product — well, one has to be steeled to that.

Some good programs

On the credit side, there are more or less interesting newsreels, made by the television broadcasters themselves. The big outstanding feature of television programs is the televising of sports events, and many set owners in and around New York find that this alone is worth their investment. Boxing, basketball, hockey, football, baseball, polo, and tennis are all televised and most of these presentations are surprisingly good. Occasionally there is a well presented quiz or other special program which many find enjoyable.

Aside from the program problem, television, in its present state of development, has other serious drawbacks. Whether it is the tendency that many have to sit too close to the screen or the lack of steadiness frequently present in the picture, there have been many complaints of eyestrain. This might prove serious with young children who do not recognize eyestrain or conceal it so that they will be permitted to continue looking at the program. Television, with some sets at least, including the two *RCA* sets tested, may cause a good deal more eyestrain than a three-hour movie program.

In some installations, there are also serious picture flaws connected with the location of the receiver in relation to the transmitting station, and the placement of antenna. This problem appears to be most serious where there are tall buildings in the neighborhood of the installation. Such buildings "reflect" the television signal and tend to cause "ghost" images in the picture. Sometimes these "ghosts" are so faint that they are not particularly objectionable. At other times there may be enough of them and of such strength as to ruin reception of a particular station.

While serious ghost and other interference patterns appear to be typical only of densely built areas, it is in just such areas that the transmitters are placed, and most sets installed. The best reception is likely to be found outside the main centers but within a radius of about 50 miles from the transmitting stations. Beyond 50 miles — sometimes less — the signal is apt to be too weak for satisfactory reception.

The standard method of trying to eliminate ghost images is the installation of an antenna which receives signals from only one general direction. The antenna should be placed and oriented by trial and error to a position at which the ghosts are minimized. Despite the $45 to $50 charge for installation and a year's servicing on the two *RCA* sets tested by CU (they were first installed in the homes of staff members), a two-element antenna, which is only somewhat directional — less so than a three-element antenna — was installed. With one installation, no real effort was made to place the antenna or orient it so as to eliminate ghosts. The ostensible purchaser (that is, the CU staff member) was told by the installer that if he wanted to get rid of the ghosts he could experiment himself with turning the antenna.

While ghosts cannot be entirely eliminated at the present time inside cities, certainly a great deal more could be done to minimize them through careful installation. For more complete elimination of ghosts and other interference, the installation of more than one antenna, or a combination of a more highly directional antenna and a remote control method of turning it for different transmitting stations might be necessary, and such means would be relatively expensive.

When it comes, color television will help minimize the ghost problem. For technical reasons color must be broadcast at much higher radio frequencies than is now used for black and white. These higher frequencies require antennas of much smaller dimensions, which facilitates the construction of a practical and extremely directional antenna.

CU performed what might be considered "use tests" rather than laboratory tests on the two *RCA* receivers. This is because no adequate test equipment for television receivers is yet available. In any case, the qualities that concern consumers were readily apparent not only to the trained observers on CU's technical staff, but also to the critical layman.

Controls on sets

The following controls are present on the two *RCA* sets and are essential on all present-day sets: 1. station tuner (usually two knobs); 2. sensitivity or picture contrast; 3. picture brightness; 4. sound volume; 5. vertical synchronization; 6. horizontal synchronization. There are, in addition, the following controls, easily accessible at the back of the *RCA* sets, which may require occasional adjustment: 1. focusing; 2. vertical linearity; 3. horizontal synchronization; 4. picture height; 5. picture width; 6. vertical centering; and 7. horizontal centering. The layman should ask the installer for instruction in adjustment of these controls. If such instruction is not given, or if picture defects cannot be eliminated by adjustment of the controls, insist on adjustment by a serviceman as often as necessary during the period of service guarantee.

Obviously as television designers learn more about circuits, the above controls will one by one become automatic, and the consumer will not have to be bothered with them.

Many picture defects apparently arise in the pickup or the transmission and not in the receiver. CU's tests in Manhattan and records kept by set owners near the city

indicate that there is a great deal of variation from day to day in quality of both picture and accompanying sound. Some days, pictures are steady and clear and sound is good, while on other days the lines are wavy, there is a good deal of flicker, and the sound is poor. Sometimes there is a sudden change in reception quality during a program. In general, the picture quality of a program originating in a studio is superior to that of programs from sports arenas or other locations.

Both *RCA* sets were solely sight-and-sound television receivers, without provision for reception of regular radio programs. The *Dumont* set now being tested provides in addition both FM and AM reception of sound programs.

For the consumer who wants a television set now, but doesn't want to spend a very large amount for it, the smaller *RCA* set with a 7-inch diameter tube is a "Best Buy." Its price in New York is $295, including $45 for installation by *RCA* servicemen and a year's servicing. For those who can afford it, the larger *RCA* table model with a 10-inch diameter receiving tube is, of course, preferable. The price is $425, including $50 for installation and servicing.

Small picture good

At its best, even the small picture provided by the 7-inch tube is surprisingly good. It has, of course, the disadvantage that one must sit fairly close to the set, with the result that only a few people can see well at the same time.

In a small room, however, a large picture also has its disadvantages. The picture is made up, regardless of tube size, of somewhat less than 525 horizontal lines (these lines result from the motion of a point of light which "scans" the screen 30 times a second). The larger the picture the more separate and distinct the lines appear and one must sit farther from the screen for the lines to blend into a continuous picture. There are, however, few rooms too small to permit proper viewing of a 10- or 12-inch picture.

Television ratings

acceptable

■ — RCA 630TS (RCA Manufacturing Company, Camden, N. J.). $425 including $50 for installation complete with antenna and a 12-month service and parts contract. Large table model with 10-inch tube. Twelve-point rotary tuning switch, each of the points being for one of the 12 television channels presently assigned by the FCC. However, after the switch is set for the desired channel, additional fine tuning is necessary to bring in the station. Picture is fairly steady most of the time and well-focused. Midget-radio-quality sound despite the fact that television sound operates on FM. This is probably due to the use of a poor speaker, very little baffle area and a single output tube. Antenna flimsily constructed both electrically and mechanically. Receiver had one tuned radio frequency stage, which is essential on theoretical grounds, partly to prevent the oscillator from interfering with other receivers in the neighborhood. A-c only. Power consumption about 1¢ an hour (at 5¢ per kwh).

■ — RCA 621TS (RCA Manufacturing Company). $295 including $45 for installation complete with antenna and a 12-month service and parts contract. Table model with 7-inch tube. Performance very similar to RCA 10-inch set above. A-c only. Power consumption about 1¢ an hour (at 5¢ per kwh).

Some Questions About Co-op Synthetic Suds

A letter from a Cooperative member calls attention to the omission of Co-op Synthetic Suds *from the report on "Synthetic Cleansers for Washing Dishes" which appeared in the March issue of* Consumer Reports. *The letter states that* Co-op Synthetic Suds *is comparable to* Vel *and* Dreft, *which CU rated "Excellent" for dishwashing. The letter also questions the inclusion of* Co-op Household Cleaner, *which was rated "Poor," in a dishwashing study.*

Co-op Household Cleaner *was included in the study because its label states, "Dishes, Glassware — Two tablespoons to a dishpan or tub of hot water. . . . Using Co-op Household Cleaner makes rinsing quicker and leaves a bright, unstreaked finish."* Co-op Synthetic Suds *was not tested because CU shoppers were unable to find it in Co-op stores at the time the dishwashing project was started. CU has since been able to purchase this product and test it.*

At the concentration indicated on the label (2 tablespoonfuls in 2 gallons of water), Co-op Synthetic Suds *rated "Poor" in the test described in the original report. With three times this amount used to produce a 1% solution for comparison with the dishwashing compounds previously tested, the dishwashing was only "Fair." On the basis of cleaning tests and on the other tests performed (pH and hard water test),* Co-op Synthetic Suds *would have been listed in the original report as a "Fair" cleaner following* Sutho, *as follows:*

fair

■ — CO-OP SYNTHETIC SUDS (Eastern Cooperative Wholesale, Inc., NYC). 49¢ for 2 lb. (1.5¢).

New Cleansers for Woolens

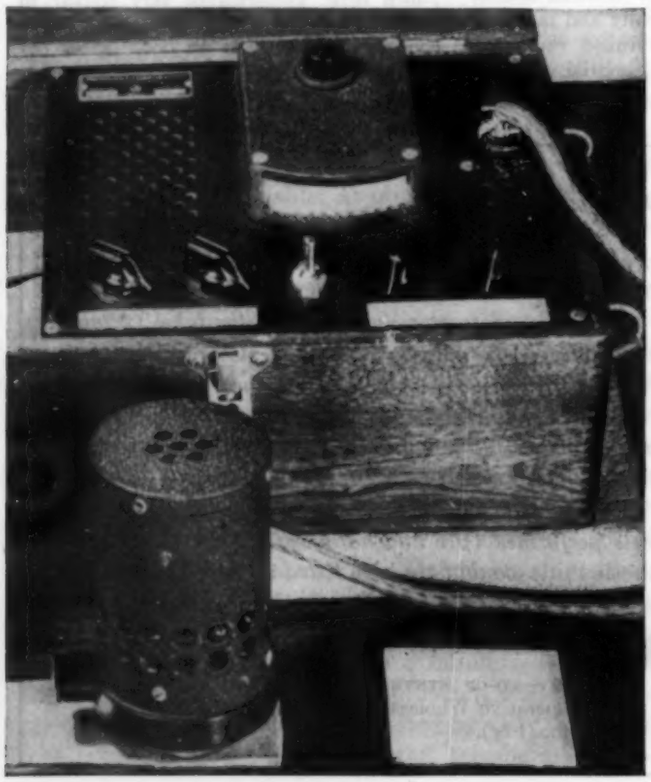
The best of the new synthetic detergents wash woolens better than soap; they're not so good for washing cottons

This is a final report on soap substitutes. Twenty-five products, recommended for home laundering, were tested for effectiveness in washing cottons and woolens in soft and hard water. Although it would be gratifying to report that some of these products "will wash and clean everything *thoroughly*" and are "more effective than any soap you've ever used," as some of the manufacturers claim, CU must report on the basis of its tests that these statements are only half true, and even that only for the better products such as *Dreft* and *Swerl*.

Not good for cottons

CU chemists found that none of these products washed soiled cotton as well as soap did when the washing was done in soft water or in hard water to which water softener had been added. On soiled wool, however, some of these products lived up to the claims made for them: they washed faster and cleaner than soap and without the aid of water softeners even in very hard water. On the basis of these tests, confirmed by reports of actual home use, CU recommends these products in place of soap for washing woolens.

To determine how well each cleanser did its washing job, the "reflectance" of each of the washed samples was measured with this photoelectric instrument.



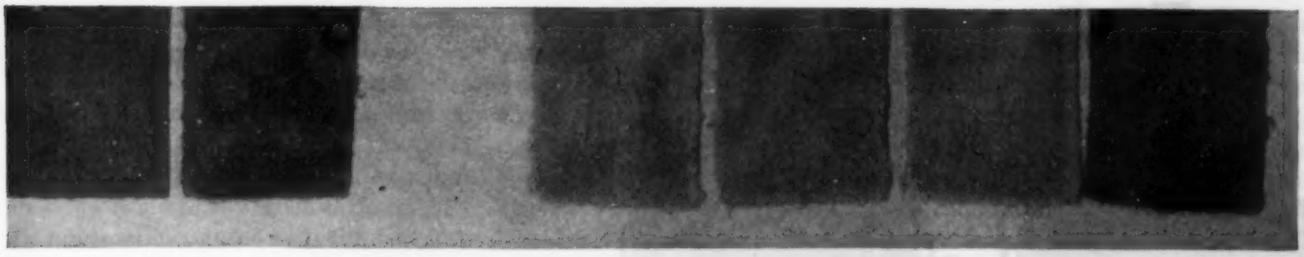
The contrast between washing woolens with soap and with the new detergents in hard water is striking. When soap alone is used in hard water, it is necessary to use large quantities to produce the "live foam" which is required for effective washing. This is so because, as the soap is added, it combines with the minerals which make the water hard. Not until all the minerals have been combined in this manner can additional soap begin to do the washing. This is an expensive and inefficient way to soften water and the combination of minerals and soap produces a gray, sticky curd which adheres to the clothes and is hard to remove. If, to avoid these difficulties, water softeners are used, there is the problem of adding just the right amount, which depends on the hardness of the water and the softener used. When a "built" soap is used, the amount of water softener is rarely correct for your water. All in all, the use of the commonly available water softeners or built soaps results in great improvement, but they are a far cry from the final answer, as persons living in hard water areas know only too well.

In contrast, however, at least for woolens, some of the synthetics do solve all hard water problems. They may be used in the usual quantities, form no curd in the hardest waters, and clean woolens rapidly and effectively.

Because CU has not been able to find any standard "soils" or laboratory soiling methods for fabrics other than cotton and wool, it did not feel that the effectiveness of the new synthetics for washing rayon, nylon or silk could be reliably determined in the laboratory at this time. The few reports on actual use of some of the detergents on these fabrics do not indicate that they have any advantage over soap. If you live in a hard water area, however, a trial of one or two of the "Acceptable" products for laundering these fabrics may be worthwhile.

How CU tested

All brands were tested to determine the pH (alkalinity) and cleansing power on cotton and wool. The pH was determined at the concentration of the solutions used in the washing tests (¼%). Those brands with a high pH were not used in the wool washing tests since



Woolen test strips used to determine the effectiveness of the various cleansers. Left, an unwashed sample of the soiled woolen. Next, a strip washed with one of the "Poor" cleansers in soft water. The remaining strips (left to right) were washed: with Dreft *in soft water, with* Dreft *in hard water, with soap in soft water, and with soap in hard water.*

alkalis have a deleterious effect on wool. Moreover, if used for hand laundering, brands with a high pH may be irritating to the skin.

Washing tests were done on cotton sheeting and wool cloth dirtied with a standard soil which was a complex mixture of carbon black, oil and other ingredients. The "dirtiness" of the cloth was determined by measurement of the amount of light reflected from the surface. Two strips of dirty cloth and two of clean cloth were used for each test. Washing was done in a laboratory apparatus set up to maintain standard washing conditions. One-quarter percent solutions of soap and of the brands to be tested were made up, since in most cases directions for amount to use were not specific and since ¼% represents the concentration usually employed in laundering. Where specific directions were given — as with the liquid products — the recommended concentrations were used. The solutions were made up in both soft and hard water.

The cotton strips were washed for one hour at 120° F., rinsed, allowed to dry and pressed between a clean towel. The "reflectance" of the "clean" and "dirty" strips was then measured. The increase in the reflectance of the dirty strip was an indication of the detergent action of the product being tested. The decrease, if any, in the reflectance of the clean strip indicated the extent to which the product tended to redeposit dirt on the cleaned cloth. The wool strips were washed for 10 minutes at 100° F., rinsed, and allowed to dry thoroughly without pressing before the reflectance was measured.

Cleanser ratings

The ratings which follow are based on results obtained on wool washed for 10 minutes at 100° F., in ¼% solution except where otherwise noted.

(Listed in order of decreasing detergent action on wool; differences between brands in each group are small. Figure in parentheses is cost per gallon of a ¼% solution unless otherwise noted.)

acceptable

When used in SOFT water on woolens, the following products were better than soap:

■ — DREFT (Procter & Gamble, Cincinnati). 32¢ for 8¾ oz. (1.2¢).

■ — SWERL (Swerl Products Div., Allied Chemical and Dye Corp., NYC). 22¢ for 10 oz. (0.7¢).

■ — NYON SUDS (Johnson Laboratories, Chicago). 35¢ for 1 pt. (4.4¢). Tested in concentration indicated on label.

When used in SOFT water on woolens, the following products were equal to soap:

■ — CO-OP SYNTHETIC SUDS (Eastern Co-operative Wholesale, Inc., NYC). 49¢ for 2 lb. (0.5¢). This product did not wash woolens in hard water as well as did soap in soft water.

■ — SHAW'S AYD SOAPLESS SUDS (H. L. Shaw and Sons, Inc., Boston). Prices ranged from 49¢ for 24 oz. to 59¢ for 5 oz. (0.7¢ to 3.9¢).

■ — O. D. WONDER WASH (O. D. Chemical Corp., NYC). 79¢ for 3¼ lb. (0.5¢).

When used in HARD water on woolens, the following products were better than soap used in soft water:

■ — DREFT. See above.

■ — SOLVOID (American Marine Paint Co., San Francisco). 59¢ for 1 qt. (1.8¢). Tested in concentration indicated on label.

■ — SWERL. See above.

When used in HARD water on woolens, the following products were equal to soap used in soft water:

■ — NYON SUDS. See above.

■ — SHAW'S AYD SOAPLESS SUDS. See above.

not acceptable

The following were considered "Not Acceptable" for home laundering for the reasons stated. Listed in alphabetical order.

○ — A 2 Z All Purpose Soapless Suds (A 2 Z Corp., NYC). 23¢ for 1 lb. Poor cleaner.

○ — BETTY BROWN BO PEEP (G. F. Brown, Philadelphia). $1 for 1 lb. Poor cleaner.

○ — DIAPERWITE (Diaperwite Co., NYC). 25¢ for 1 lb. Poor cleaner.

○ — KLENS (Klens, Inc., Evanston, Ill.). 65¢ for 1 pt. High pH.

○ — LAN-O-SHEEN (Lan-o-Sheen, Inc., Saint Paul, Minn.). 50¢ for 10 oz. Poor cleaner.

○ — MAID OF HONOR Household Cleaner, Cat. No. — 6533 (Sears-Roebuck). 88¢ plus postage for 2 lb. Poor cleaner.

○ — RAD Cleaner (Milrose Products Co., NYC). 95¢ for 1 qt. High pH.

○ — SAMAE All Purpose Cleaner (Samae Products Co., Newark, N. J.). 29¢ for 1 lb. Poor cleaner.

○ — SAVOGRAN COLDFOAM All-Purpose Cleaner (Savogran Co., Boston). 25¢ for 1 lb. Poor cleaner.

○ — SCOOP (FR Corp., NYC). 22¢ for 1 lb. Poor cleaner.

○ — SHEER (Detergent Products, Inc., Philadelphia). 12½¢ for 12 oz. Poor cleaner.

○ — SOLVENE Liquid Cleaner (Scientific Products Corp., Los Angeles). 65¢ for 1 qt. Poor cleaner.

○ — SUTHO SUDS (Sutho Suds, Inc., Indianapolis). 23¢ for 1 lb. 2 oz. Poor cleaner.

○ — TOPS (Johnson Consumer Industries, Inc., Maspeth, N. Y.). 25¢ for 1½ lb. Poor cleaner.

○ — VALVO (Koch Chemical Co., Winona, Minn.). 29¢ for 22 oz. Poor cleaner.

○ — VEL (Colgate-Palmolive-Peet Co., Jersey City, N. J.). 32¢ for 12 oz. Poor cleaner.

○ — WOOLFOAM (Wool Novelty Co., NYC). 25¢ for 5 oz. Poor cleaner.

○ — WOOLY (Royal Rinse, Inc., Philadelphia). $1 for 15 oz. Poor cleaner.

The New Rolleis

The receipt in this country in March of a shipment from Germany of a thousand new *Rolleiflex* and *Rolleicord* cameras, with the promise of additional shipments to come, has been greeted joyfully by a great many photographers, professional as well as amateur. The new *Rolleis* again give emphasis to the fact that no American manufacturer has produced a twin-lens reflex camera approaching the *Rolleis* in versatility or convenience. But the cost of the versatility and convenience is high — $300 for the *Rolleiflex*, and $165 for the *Rolleicord*.

CU purchased one of each of the cameras for test and for comparison with prewar *Rollei* cameras. The new *Automatic Rolleiflex* is unquestionably the easiest and quickest to load and to operate of the five twin-lens reflex cameras CU has thus far rated (CU previously reported on the *Argoflex*, the *Ciroflex*, and the *Kodak Reflex*). It appears to be identical with the prewar *Automatic Rolleiflex* except for the lens, which is a Schneider *Xenar* in place of the prewar Zeiss *Tessar*. The *Xenar* is a lens of the same type as the *Tessar*, and the quality of the lens in the sample tested was comparable to the quality of *Tessar* lenses.

The Rolleicord

The *Rolleicord* has the same lens as the prewar *Rolleicord* — a Zeiss *Triotar*. This lens is definitely inferior to the *Tessar* or the *Xenar*, but most photographers will find it entirely satisfactory for general use. The new *Rolleicord* shows one improvement and one loss as compared with the prewar camera. It now has the same kind of wholly enclosed *Compur-Rapid* shutter as the *Rolleiflex*, a shutter which gives speeds ranging from 1 second to 1/500th second. The prewar *Rolleicord* shutter had a maximum speed of 1/300th second. As against this gain, however, is the fact that while the shutter has a "Bulb" setting, there is no "Time" setting, and furthermore there is no provision for the attachment of a cable release! The importers of the camera promise to remedy this defect in future shipments, and it is to be hoped that they will.

Reasons for popularity

One of the things that makes both the *Rolleiflex* and the *Rolleicord* so well-liked by photographers is the convenience with which lens openings and shutter speeds can be set. With the *Rolleiflex* there is one horizontal window at the top of the shutter housing in which both lens-aperture and shutter-speed numbers can be viewed from above with the camera in normal "taking" position. Speeds are set by a small milled ring at one side of the shutter, and lens apertures are set by a similar milled ring on the other side.

Adjustments in the *Rolleicord* are only a shade less convenient. Instead of one window there are two on the upper sides of the shutter housing, and in such a position that the aperture and speed numbers can be viewed from above. Instead of milled rings, there are levers for the adjustments.

The outstanding feature of the *Automatic Rolleiflex* is the film-transport and shutter-setting mechanism. Although ordinary No. 120 film is used, the winding operation is as simple as with the best 35 mm. cameras using film with sprocket holes. The film is easily loaded in the camera, the back closed and a crank turned until it stops automatically when the number "1" appears on the automatic counter with the film in position for the first picture. At the same time the shutter is automatically set. After the shutter is released the crank is again turned until it stops (about a half-turn); the new number then appears on the counter and the shutter is automatically set for the next picture.

The Rolleicord method

With the *Rolleicord* the process is only a little less simple. After the film is loaded a knob is turned until the number "1" on the paper backing of the film appears in the red window underneath the camera. At this point pressure with one finger on the locking disc of the winding knob and movement with another finger of a small milled knob sets the automatic counter at "1." After each picture is taken the locking disc is pressed and the winding knob turned until it stops automatically with the new film number showing on the counter. The shutter must be set by hand as with most cameras.

Both cameras have f:3.5 taking lenses. The viewing lens of the *Rolleiflex* has an aperture of f:2.8. That of the *Rolleicord* has an aperture of f:3.2. Neither of the lenses was coated.

A unique feature of both *Rollei* cameras is a mirror in the hood so arranged as to permit eye-level focusing. (Other twin-lens reflex cameras permit eye-level viewing, but not eye-level focusing.) Both cameras, like the other twin-lens reflex cameras tested, have focusing magnifiers in the hoods.

The excellence of these cameras and their general superiority over competing American cameras is beyond question. Whether they are worth the higher cost is, however, open to question. The answer is one which the individual photographer must find for himself, in terms of the importance to him of the *Rolleis'* convenience features. There are, of course, times when the ability to make adjustments and get a camera into action quickly, or to transport the film for a new picture rapidly, makes all the difference between getting the desired picture and not getting it. For most pictures, however, such ease of adjustment and transport is a convenience and nothing more, and adds nothing to the merit of the results.

Insofar as the lenses are concerned, that of the *Xenar* of the *Rolleiflex* is superior to the lens of any of the other twin-lens reflexes tested. Its superiority to the coated *Anastigmat* of the *Kodak Reflex* tested was not great enough, however, to show up in most pictures. The *Triotar* lens of the *Rolleicord* was somewhat inferior in sharpness to the *Kodak Reflex* lens tested and a little better than the coated *Wollensak Velostigmat* lens of the *Ciroflex* camera tested. It should be understood that the statements about lens quality relate specifically to the lenses of the cameras tested by CU, and that there is variation in lens quality for all lens makes.

Difference in price

For most photographers CU doubts that the *Automatic Rolleiflex* is worth the $135 price differential as compared with the *Rolleicord*. Whether either the *Rolleiflex* or the *Rolleicord* is worth the higher price as compared with the $120 *Kodak Reflex* or the $80 *Ciroflex* is something the individual must decide in terms of his photographic needs and his pocketbook.

It is of some interest that when the new *Rolleis* burst on the New York photographic market their prices were considerably lower than the prices being charged in New York stores for the second-hand prewar *Rolleis*. Needless to say, those prices came down. Whether they stay down will probably depend on the supply of the new ones.

Camera ratings

acceptable

■ — AUTOMATIC ROLLEIFLEX (Franke & Heidecke; imported by Burleigh Brooks, Inc., NYC). $300, including carrying case and excise tax. Takes 12 pictures 2¼ x 2¼ inches on No. 120 film. SCHNEIDER XENAR 75 mm. f:3.5 taking lens, f:2.8 viewing lens. *Compur-Rapid* shutter with 9 shutter speeds (1 to 1/500th second) plus Bulb. Time exposure obtainable with special cable release. Shutter has built-in self-timer. Focuses from .8 meter to infinity, with convenient focusing knob at side of camera. Single motion opens or closes hood. Hood has built-in focusing magnifier and mirror for eye-level focusing. Crank winds film with automatic stop for first as well as succeeding exposures. Automatic exposure counter on side of camera. Film transport automatically sets shutter. Milled rings at sides of shutter set shutter speed and lens aperture with speed and aperture numbers showing in a single horizontal window on top of shutter housing. Metal body, one tripod socket, provision for neck strap. Safety cover over shutter release to prevent accidental exposure. This is the best of the twin-lens reflex cameras tested.

■ — ROLLEICORD II (Franke & Heidecke; imported by Burleigh Brooks, Inc.). $165, including carrying case and excise tax. Takes 12 pictures 2¼ x 2¼ inches on No. 120 film. ZEISS TRIOTAR 75 mm. f:3.5 taking lens; f:3.2 viewing lens. *Compur-Rapid* shutter with 9 shutter speeds (1 to 1/500th second) plus Bulb. No "Time" setting and no provision for cable release, despite statement to contrary in folder supplied with the camera. Focuses from .8 meter to infinity, with convenient focusing knob at side of camera. Single motion opens or closes hood. Hood has built-in focusing mirror for eye-level focusing. Winding knob with automatic stop for second and subsequent exposures; film must be wound into position for first exposure with aid of red window underneath. Automatic exposure counter on side of camera. Levers set shutter speeds and lens apertures with speed and aperture numbers showing in two windows on shutter housing, which can be seen conveniently from above. Metal body, one tripod socket. Provision for neck strap.

Canned Chicken Soup

Taste tests of 29 canned chicken soups by CU's taste-testing panel show preference for broths over other types

This report on chicken soups is the third in the series of reports on soup taste tests. As in the other two projects, the members of CU's taste panel rated each brand of the 29 chicken soups tested. There was more variety among the chicken soups than among the vegetable and tomato soups. Included were not only chicken broths with and without rice or noodles, but also creamed chicken soups, gumbos, and chicken soups with mushrooms, asparagus, watercress, etc.

Most of CU's tasters preferred the broths to the soups with added cream or vegetables; only two of the chicken soup mixtures were among the first ten on the preference list. Many of CU's tasters thought that rice and noodles in the chicken broths were too soggy or overcooked; if you don't like soggy rice or noodles, you may prefer to buy a clear chicken broth and add your own rice or noodles.

Each member of the taste panel tried each brand at least twice; where there was poor correlation between the two series of tests, a third series was done. The ratings are based on the average flavor scores of the two or three sets of tests for each brand. As in all CU's taste tests, the ratings are intended to serve simply as a general guide to indicate which soups are worth trying. Your own tastes may differ from that of the taste panel. CU suggests that you first try brands near the top of the list in an effort to find a brand which you will prefer.

Chicken soup ratings

Ratings are in order of decreasing taste score within each group. Differences between adjacent brands are small. Figures in parentheses represent cost per average 7 oz. serving.

good

■ — COLLEGE INN Condensed Clear Chicken Broth (College Inn Food Products Co., Chicago). 17¢ for 13¾ fl. oz. (8.7¢, undiluted; 4.3¢, diluted). Directions stated that soup may be prepared with or without dilution. "Good" when served undiluted, "Fair" when served diluted.

■ — CAMPBELL'S Condensed Chicken Soup (Campbell Soup Co., Camden, N. J.). 18¢ for 10½ av. oz. — 10 fl. oz. (6.3¢).

■ — S. S. PIERCE CO. Chicken Noodle Soup (S. S. Pierce Co., Boston). 18¢ for 13¾ fl. oz. (9.2¢). Ready-to-serve type.

fair

■ — DIPLOMAT Plain Chicken Broth (Diplomat Products, Inc., North Bergen, N. J.). 16¢ for 12½ fl. oz. (9¢). Ready-to-serve type. Four out of 6 cans were short volume.

■ — HEINZ Condensed Chicken Noodle Soup (H. J. Heinz Co., Pittsburgh). 18¢ for 10¾ av. oz. — 10¼ fl. oz. (6.1¢).

■ — CAMPBELL'S Chicken Noodle Soup (Campbell Soup Co.). 18¢ for 10½ av. oz. — 10 fl. oz. (6.3¢).

■ — S. S. PIERCE CO. Cream of Chicken Soup (S. S. Pierce Co.). 19¢ for 13¾ fl. oz. (9.7¢). Ready-to-serve type.

■ — DORSET Home Style Chicken Broth with Parts of 2 Chicken Wings (Dorset Foods, Ltd., Long Island City, N. Y.). 25¢ to 35¢ for 14 fl. oz. (12.5¢ to 17.5¢). Ready-to-serve type.

■ — CAMPBELL'S Condensed Chicken Gumbo Soup (Campbell Soup Co.). 18¢ for 10½ av. oz. — 10 fl. oz. (6.3¢).

■ — CO-OP Condensed Chicken Soup (With Rice) (National Cooperatives, Inc., Chicago). 16¢ for 10½ av. oz. — 10 fl. oz. (5.6¢).

■ — CROSSE & BLACKWELL Ready to Serve Chicken Noodle Soup (Crosse & Blackwell Co., Baltimore). 23¢ for 15¾ fl. oz. (10.2¢).

■ — GRISDALE Condensed Chicken Broth with Rice (Gristede Bros., Inc., NYC). 25¢ for 12 fl. oz. (7.3¢).

■ — RICHARDSON & ROBBINS Chicken Broth with Rice (Richardson & Robbins Co., Dover, Del.). 16¢ for 12½ fl. oz. (9¢). Ready-to-serve type.

■ — PHILLIPS DELICIOUS Condensed Chicken Soup (Phillips Packing Co., Cambridge, Md.). 16¢ for 10½ av. oz. — 10 fl. oz. (5.6¢).

■ — DORSET Cream of Chicken and Asparagus Soup (Dorset Foods, Ltd.). 28¢ for 14 fl. oz. (14¢). Ready-to-serve type.

■ — RED & WHITE Chicken Soup (Red & White Corp., Chicago). 17¢ for 10 fl. oz. (6¢).

■ — WESTCHESTER Condensed Chicken Broth with Rice (Pure Food Co., Mamaroneck, N. Y.). 23¢ for 12½ fl. oz. (6.4¢).

■ — WHITE ROSE Condensed Chicken Soup With Noodles (Seeman Brothers, Inc., NYC). 27¢ for 12½ fl. oz. (7.6¢). A piece of tar-like dirt was found in 1 of the 6 cans tested.

■ — PHILLIPS DELICIOUS Condensed Noodle Soup With Chicken (Phillips Packing Co.). 15¢ for 10½ av. oz. — 10 fl. oz. (5.2¢).

■ — GRISDALE Condensed Chicken Soup With Noodles (Gristede Bros., Inc.). 25¢ for 12½ fl. oz. (7¢).

■ — DORSET Cream of Chicken and Mushroom Soup (Dorset Foods, Ltd.). 28¢ for 14 fl. oz. (14¢). Ready-to-serve type.

■ — DORSET Creamed Chicken Soup (Dorset Foods, Ltd.). 20¢ to 29¢ for 14 fl. oz. (10¢ to 14.5¢). Ready-to-serve type.

poor

■ — DORSET Cream of Chicken Soup Malakoff (Dorset Foods, Ltd.). 28¢ for 14 fl. oz. (14¢). Ready-to-serve type. This soup contained chicken broth, potatoes, milk, spinach, onions, cream, and tomato paste among its ingredients.

■ — WHITE ROSE Condensed Chicken Broth With Rice (Seeman Brothers, Inc.). 19¢ to 29¢ for 12½ fl. oz. (5.3¢ to 8.1¢).

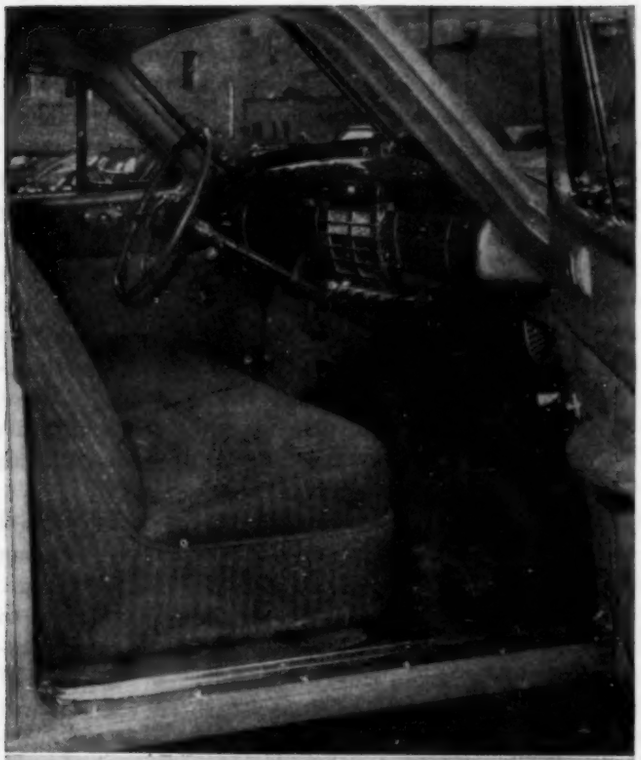
■ — DORSET Natural Chicken Broth (Dorset Foods, Ltd.). 18¢ to 29¢ for 14 fl. oz. (9¢ to 14.5¢). Ready-to-serve type.

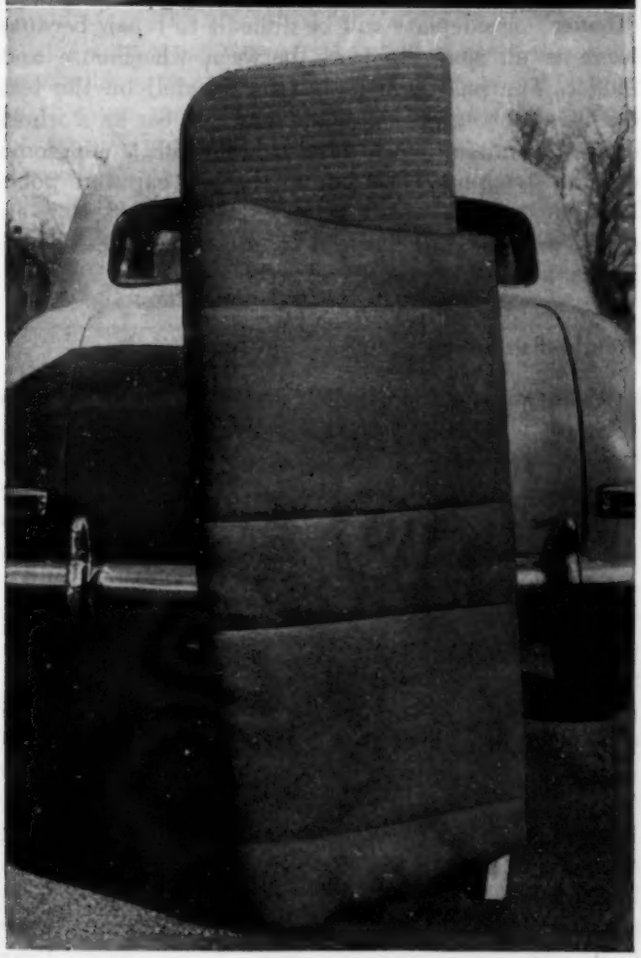
■ — S. S. PIERCE CO. Clear Chicken Broth (S. S. Pierce Co.). 22¢ for 14 fl. oz. (11¢). Ready-to-serve type.

■ — DORSET Chicken Gumbo Soup (Dorset Foods, Ltd.). 27¢ for 14 fl. oz. (13.5¢). Ready-to-serve type.

■ — DORSET Cream of Chicken and Watercress Soup (Dorset Foods, Ltd.). 31¢ for 14 fl. oz. (15.5¢). Ready-to-serve type.

■ — WHITE ROSE Jellied Chicken Consomme (Seeman Brothers, Inc.). 21¢ for 12 fl. oz. (12.2¢). Ready-to-serve type.





The Kaiser, Frazer and Studebaker Cars

After road-testing the Kaiser and the Studebaker, CU's automobile consultant gives a further report on these new cars

CU characterized the *Frazer* as "just another car" in comparison with the radical front-drive *Kaiser* which was announced in February, 1946. But the front-drive *Kaiser* was never placed in production; a *Kaiser* "Special," mechanically similar to the *Frazer*, took its place. This article is a report on these cars based in part on road tests of a *Kaiser* Special purchased by CU in January.

As with most cars, CU found in the *Kaiser* Special a mixture of good and bad characteristics — good and bad, that is, with respect to standards of usability, safety, comfort, and economy of ownership. As is CU's custom, body styling and boudoir interiors are dealt with only as they affect safety and comfort, qualities which are usually compromised by manufacturers for the sake of "eye appeal" and style. The *Kaiser* proved to be no exception to this rule.

Because their interiors are so wide, *Kaiser* and *Frazer* cars give an impression of great over-all width; actually, they are narrower over-all than any other sedans now in production except the *Studebaker* and the *Hudson*. Their wheelbase is relatively long (123.5 inches), but the cars overhang front and rear (over-all length minus wheelbase) less than any other car. Horsepower and maximum torque (100 h.p. and 180 lb. torque) are modest, and since the cars are not light (*Kaiser*, 3358 lb.; *Frazer*, 3453 lb., shipping weight), their performance is adequate but not sensational. Chassis and engine are entirely conventional.

Top, Kaiser *interior; note low seat, high cowl, and proximity of windshield pillar to driver's eyes. Below, the great width of the* Kaiser (*or* Frazer) *interior can be seen from the difference between this rear seat cushion of average width (51 inches) and the* Kaiser *rear seat cushion (62 inches).*

As of April 15, 1947, the list price of the *Kaiser* was approximately $2063 (4-door sedan) plus freight to point of delivery and any local taxes. The factory-delivered price of the *Frazer* was $2253 (4-door sedan), plus $66 for the overdrive usually fitted. On the basis of these prices, the *Kaiser* will be compared by prospective buyers with such cars as the *Packard* 8 and the *Buick* 51, while the de luxe and overdrive-equipped *Frazer* approximates the *Cadillac* 61 in price. On the basis of the car's specifications, the *Kaiser* compares most closely with the *Studebaker* Commander, which like the *Kaiser*, is a true 1947 model, and has the same size engine (piston displacement) and very nearly the same over-all length. The Commander factory delivered price is approximately $1700 (4-door sedan).

Kaiser advantages

Compared with *Packard* 8 and *Buick* 51, the *Kaiser* has the following points of superiority, and few, if any, others: the *Kaiser* has much wider seats, less over-all width and length, better headroom, larger trunk space, more adequate tire capacity, considerably better gas mileage, larger brakes in proportion to its weight, and is simpler and easier to work on both mechanically and in the repair of damaged sheet metal.

Compared with *Studebaker* Commander, the *Kaiser* has less dimensional superiority; it has four inch wider but lower seats, more trunk space, slightly less over-all length, longer wheelbase, and somewhat better engine accessibility. Power factors (a computation of car ability involving torque, acceleration, tire size, and road weight) of the *Kaiser* and the non-overdrive *Studebaker* are nearly alike, but the overdrive-equipped Commander would appear to out-accelerate and out-climb the overdrive-equipped *Frazer* by a good margin, as do both the *Packard* and the *Buick*.

While driving the *Kaiser*, CU consultants were asked if it "wasn't the same underneath as the old *Graham*." (*Frazer* was technically made by Graham-Paige Motors until recently.) The facts are approximately these: the *Kaiser-Frazer* Continental engine is very similar to the last *Graham* engine, with cylinders of 1/16th-inch larger diameter, and some other detail changes (including omission of a supercharger). Transmission and rear axle are the same or similar. Brake drum and rear spring are similar. All other parts are different, including frame, clutch, ignition system, steering gear, front suspension, brakes, and body.

The chief interest in the new car centers around the *Kaiser-Frazer* body, which has the widest seats (front and rear cushions measure 62 inches) offered by any manufacturer. The wide rear seats are, as on *Studebaker*, made possible by the location of the seat forward of the housings over the rear wheels, so that cushion width is governed by the car's total width, not by the space between the wheels. The front seat is actually so wide that the driver cannot readily close the right front door from behind the wheel.

Unfortunately, comfortable seat width, good headroom front and rear, exceptionally large trunk space, and good rearward vision complete the dimensional attractions of the body. Both seats, though well-upholstered, are far too low (12.5 inches, approximately) for maximum comfort. The body cowl is high (purely for reasons of style), giving poor over-hood vision for all but the tallest drivers. The broad windshield affords wide-angle vision, but places the corner post very close to the driver's eyes, resulting in a bad blind spot on left-hand corners. Furthermore, the stylist has thickened the edge of the roof so that it is at its lowest point at the windshield corner post (on the *Studebaker*, this is its *highest* point), unnecessarily limiting vision at an upward angle to both right and left.

Structurally, the body appears to be of very good strength. Liberal use is made of sprayed-on silencing material, and interior quiet is better than average. Sheet metal experts consider body and fenders easy to work on, with one exception. The wheelhouses are completely separate from the rear "fender" or sideplate of the body, so that, for one thing, the body exterior will not rust through from below. But damage to the outer "fender" or sideplate will be difficult to repair because there is no space to work between wheelhouse and fender. The paint job (synthetic enamel) on the test car was pronounced excellent, and the car as a whole carries a minimum of ornamental and troublesome chrome stripping. Door fits on the test car were poor. Legibility of the speedometer — as on most cars an *objet-d'art* first and a speed indicator second — could hardly be worse.

Weight distribution

Although the *Kaiser* body utilizes almost all the space back of the front wheels, weight distribution is much less radical than with the *Studebaker* (see below). Despite the approximately normal weight on the rear wheels, traction on snow-covered roads was not impressive. Riding qualities are excellent, but appear to be obtained at the expense of road-holding ability on rough and winding roads. Several drivers complained of excessive hopping of the wheels under such conditions. On smooth roads, however, the car is very stable, with minimum sway on curves, and it handles easily and accurately. Front suspension is by coil springs and cross levers of liberal dimensions, being very similar in details to that used by *Hudson*.

As on most newly designed cars, the frame is of box section without an X-member. It provides adequate front-end stability. Like the *Studebaker*, the *Kaiser* uses a two-piece propeller shaft, giving an almost flat rear floor and minimizing whipping of the shaft. Rear

axle, transmission and clutch are standard units, purchased from Spicer, Warner, and Borg and Beck, respectively.

The Kaiser engine

The engine is of Continental design and manufacture in the cars so far produced; *Kaiser* plans to take over the engine-building facilities in the near future. The engine is conventional in construction, following the *Graham* engine closely, but using a high compression ratio (7.3 to 1). Tests were run with Sunoco (regular grade) fuel with which there was no knocking, but the engine was of course new and free of carbon. Owing to the particular engine mounting used, together with an apparently rough clutch, the engine shook badly in starting up in low gear, then remained smooth at all speeds up to 60 mph, at which there was a less troublesome vibration period. It is understood that changes in the engine mountings are being made.

Under 15 mph (in high gear), the car appears to lack power, owing in part to the car weight and the relatively small rear-axle gear reduction (4.09 to 1). Above 15 mph, performance was adequate. No opinion could be formed as to how this engine will stand up, or of the oil mileage to be expected from it. A good engine results largely from the utilization by the maker of owner and engineering experience over a period of years, in making an engine as foolproof as possible. Even minor changes often cause upsets, and the burden of proof is always on a new or renovated engine such as that of the *Kaiser-Frazer*.

Because of the relatively small piston displacement of the engine in combination with the axle-ratio used, the *Kaiser* gives good gas mileage. CU tests showed the following on the standard car with 4.09 to 1 axle ratio:

Speed	*Miles per Gallon*
30 mph	23.5
40	21.0
50	18.5

These are very close to factory-published figures. The mileage for the *Frazer* when operating in overdrive is given by the factory as follows:

Speed	*Miles per Gallon*
30 mph	27.75
50	23.00

These mileages per gallon are for constant speed runs on level roads under optimum conditions; daily driving rarely betters 85% of the above figures.

Engine accessibility of the *Kaiser* was rated by mechanics who inspected it as better than average. Electrical units and other engine accessories were of high quality.

In common with many other cars produced recently, the *Kaiser* showed several examples of sloppy assembly, most of which were easily corrected by the local dealer. *Kaiser-Frazer* service outlets, although theoretically at least as numerous as for other "independent" cars, appear at present to be rather scantily supplied with tools, parts and information. As late as March 5th, the *Kaiser-Frazer* shop manual, which details repair operations for mechanics, was still "in preparation" and had not been issued.

As is obvious from the description above, the *Kaiser* requires careful evaluation. It is much overpriced even in today's market. It is a simple, conventional, and fairly rugged automobile, in no sense cheaply made, and capable of good operating economy. In addition to poor driver vision and too-low seating — both the result of style factors — it has two chief drawbacks:

Oldsmobile *(left) and* Kaiser *show* Kaiser's *greater utilization of over-all width for interior space.*

(1) Buyers in the luxury price class, into which the *Kaiser* and *Frazer* cars at present fit, usually count on more powerful performance than *Kaiser* or *Frazer* will give them. Even most medium-priced sixes at about the *Kaiser* weight — *Pontiac, Oldsmobile, Nash, Dodge* — have somewhat larger power plants. (CU is not arguing for large engines, but for a power-for-weight relationship giving maximum durability.)

(2) *Kaiser* and *Frazer* are new cars; the "team" of engineers producing them is a new team. Regardless of the help given by experienced suppliers of components, and the engineering workout given the cars so far, there will be "bugs" — details that need to be changed as time goes on. (The unsatisfactory engine mounts and the excessive wheel hop would seem to be two.) And users will, as they have with every other car, discover details that need correction which no test program ever seems to uncover. This process gradually produces a better car, if the design was reasonably good in the first place — and the *Kaiser-Frazer* design is certainly satisfactory to this extent.

CU's opinion of the *Kaiser* — or *Frazer* — can be summarized as follows: It is a car of liberal dimensions (except for the engine), not skimped in construction, and basically of sound design. It is a conventional car, mechanically, and provides nothing in the way of performance that cannot be secured in other cars. It is even — and most unhappily — conventional in style, despite its wide body, for it conforms to the industry's habit of sacrificing seating comfort and good driver vision to outward appearance. CU cannot recommend either *Kaiser* or *Frazer* at their present prices, though they are "Acceptable" for those who want them.

Notes on Studebaker Champion

As readers of the July, 1946 *Reports* will remember, the 1947 *Studebaker* Champion is shorter, narrower, and lower than any other current sedan, has 58-inch-wide seats, really excellent vision (except via rearview mirror), a small and well-tried-out engine, wide-based stable tires and unique springing. Accessibility for minor repairs is better than in previous models; for major repairs, or to remove the oil pan, the engine must be taken out, which is undesirable of course, but not as bad as it sounds — as most service men will agree.

Since the first report on the 1947 *Studebaker* Champion, considerable data and driving experience have been accumulated. Gasoline mileage on level roads at constant speed was found by CU road tests to agree with factory figures. These are:

(Standard car without overdrive)

Speed	*Miles per Gallon*
20 mph	26
40	23
60	19

(With overdrive in operation)

Speed	*Miles per Gallon*
40 mph	26
60	22

CU's chief concern in first reviewing the *Studebaker* Champion was as to the effects of its radical redistribution of weight, which places the engine and most of the car weight very far forward, and the center of gravity of the car under the front seat. This change affects chiefly the passenger location and seat space, the riding qualities, the steering, and the rear wheel traction; the change was made in order to improve the first two of these factors.

Riding qualities

As with *Kaiser-Frazer*, the *Studebaker* rear seat is entirely forward of the wheelhouses, permitting extension of its width to 58 inches. (Over-all width of the car is 69.75 inches.) But the major gain has been in riding qualities, particularly in the reduction of pitch, or "rocking-chair" motion. In this respect, the *Studebaker* Champion rides very well indeed, the flat ride effect being most noticeable — and most appreciated — in long distance travel. In contrast with most advertised car "features" this represents a very real gain.

But in automobile design, a gain in one direction usually has to be paid for in another. The *Studebaker* Champion has considerably less than the usual amount of rear wheel traction under adverse road conditions. You will need to put on chains sooner in wintertime, and CU suggests also a wariness about getting into places from which you must back out upgrade on a low-friction surface.

A second drawback concerns handling on corners and curves. The *Studebaker* steers easily enough and will take curves very fast with safety. But it will seem to some drivers that the car requires a little extra steering and concentration on curves. It is, however, the opinion of most engineers that a car that must be steered around curves, as does the Champion (and most other late models), is safer than the older type, on which the rear wheels, when traction is poor, tend to skid outward. Front tires on the *Studebaker* should always be kept at a higher pressure than the rear tires to help the tires handle the extra front end weight. It will help also to have good nonskid treads on the front tires.

If riding comfort and excellent vision are of primary importance to you, however, the *Studebaker* solution is well worthwhile. The car may be less suitable for buyers who are not too much concerned about riding qualities, and who do have to get up steep, wet, sanded, or snow-covered inclines daily. On all counts, except these, the experience of CU's consultants with the Champion, and their opinion of it, entitle the car to a "Best Buy" rating.

The Quality of House Paints

A background article on the changes that have taken place in house paints and the factors that make good and bad paints

(Photo by A. DEVANEY, INC., N. Y.)

This article, by CU's paint consultant, is intended for the more technically minded homeowners among Reports *readers who are concerned about the changes that have taken place in house paints since the beginning of the war; and who want to know whether the heavy investment of house painting can be made safely with the paints now available. A summary for the less technically minded appears on page 156.*

The decade from 1930 to 1940 was one of steady improvement in the quality of house paints, reaching the highest standards ever attained. As the war clouds gathered, however, military demands for paints mounted, materials for paint-making became scarce, and the quality of paints fell off seriously. Many special paints were made for war purposes, some of them never previously known, but the wartime developments did not disclose any new materials, plastic or otherwise, suitable for making house paints. Any advertising of alleged new house paints derived from wartime research may be regarded as purely imaginative.

Reconversion since the fighting ceased has been disappointingly slow. Although the factories and the equipment for making paints were seldom diverted to other uses during the war, there remain severe shortages of some of the essential ingredients of good house paints. At the same time demand for house paints is perhaps at an all-time high. Not only is paint needed for new housing under construction but maintenance of paint on existing houses has largely been deferred until repainting is often several years overdue.

The principal shortages that affect house paints are those of linseed oil and of white pigments, particularly white lead. Linseed oil and white lead are in low supply largely because importations from foreign countries have been reduced; other white pigments such as titanium dioxide are short because the demand for them has increased faster than facilities for their manufacture. Despite the shortages of materials the total production of the paint industry is at a record high, at least in dollar value. Obviously, the industry has kept the volume of products up by shifting to those kinds of paint that require least of the scarce materials and by using the smallest practicable proportions of the scarce materials. That is why flat wall paint is easier to buy than house paint and will remain so until linseed oil and white lead become more readily available. Naturally, too, the resin-emulsion paints, which require the least oil of any of the reasonably washable paints, are advertised most vigorously.

The linseed oil shortage

Normally, approximately half the flaxseed for making linseed oil in the United States is imported, largely from Argentina, and the balance is grown on American farms. Since the war, relations with Argentina have been such that the desired quantities of flaxseed have not been

obtained. More flax will probably be raised in the United States this year but it will not begin to furnish linseed oil for paint-making until late Fall and Winter. A number of plants besides flax, and some fish, produce drying oils suitable for paint-making but the only one likely to be available in quantities large enough to help much in making house paint is the soybean. Soybean oil, however, goes into the making of salad oil and other foods before any excess is offered to the paint industry.

Tung oil, from the nutmeats of the tung tree grown in Manchuria, China, and to a limited extent in the southeastern United States, can be used only in small proportions in house paints, though it is of major importance for making varnishes and enamels. Synthetic drying oils, such as dehydrated castor oil made from the nondrying oil of castor beans, and the numerous synthetic resins likewise are of interest for making varnish and enamels but help little in making house paint. Chemists still have much to learn before they can make synthetic drying oils to replace linseed oil.

Improvement not certain

Some easing of the supply of house paints by the Spring of 1948 is possible but by no means certain. There have been so many disappointments in the past that it takes a confirmed optimist to offer encouraging predictions. It may well be several years before house paint again becomes abundantly available and regains the prewar standards of quality.

The house paint that is being made at the present time usually contains as little drying oil and white lead as the makers feel it safe to use. To a certain extent this trend has been going on for a quarter of a century, partly to reduce the cost of paint but largely to improve some of its properties. Now, however, the changes have gone far past the point of improvement in properties and are operating to increase the paint user's costs of painting. For the more technically minded reader, the table illustrates the general trends that have taken place by showing the composition by volume of prepared (ready-mixed) house paints representative of products considered high in quality about 1920, 1930, 1940, and 1947, respectively. Of course there were considerable variations among the formulas of the different brands of paint actually being sold in any of the years chosen but the formulas may be regarded as reasonable averages for the times.

The paints in the table are described in accordance with the U. S. Department of Agriculture's "Classification of House and Barn Paints" (Technical Bulletin No. 804, Superintendent of Documents, Washington, D. C., 10¢). Ingredients are reported by volume instead of weight because paints are designed, sold, and used by volume. Paints are divided into groups according to the principal opaque pigments with which they are made;

INGREDIENT	*Composition in gallon of ingredients in one gallon of prepared paint representative of house paint of high quality about the year indicated:*			
	1920	*1930*	*1940*	*1947*
White Lead, **L**	*0.11*	*0.11*	*0.07*	*0.04*
Zinc Oxide, **Z**	*0.07*	*0.07*	*0.06*	*0.06*
Total, chemically active pigments, **L** *plus* **Z**	*0.18*	*0.18*	*0.13*	*0.10*
Titanium Dioxide		*0.01*	*0.04*	*0.04*
Diluent Allowance		*(0.03)*	*(0.13)*	*(0.13)*
Equivalent opaque pigments	*0.18*	*(0.22)*	*(0.30)*	*(0.27)*
Pigments of low opacity (extenders)	*0.04*	*0.03*	*0.09*	*0.12*
Total pigments	*0.22*	*0.22*	*0.26*	*0.26*
Raw or boiled linseed oil	*0.69*	*0.69*	*0.56*	*0.24*
Bodied (thickened) linseed oil			*0.05*	*0.23*
Total nonvolatile	*0.91*	*0.91*	*0.87*	*0.73*
Mineral spirits and drier	*0.09*	*0.09*	*0.13*	*0.27*
Total paint	*1.00*	*1.00*	*1.00*	*1.00*

Composition by volume of paints representative of the house paints considered of high quality on the market about 1920, 1930, 1940, and 1947, respectively, and showing the changes that have taken place in the 27-year period from 1920 to 1947.

thus paints of group *LZ* contain white lead (*L*) and zinc oxide (*Z*), paints of group *TLZ* contain titanium dioxide (*T*) together with white lead and zinc oxide, and paints of group *SLZ* contain zinc sulfide (*S*) together with white lead and zinc oxide.

Judging quality

In judging the quality of house paints, one must consider four different items. They are the content of chemically active pigments, the content of equivalent opaque pigments, the content of total pigments, and the content of total nonvolatile ingredients. White lead and zinc

oxide serve both as chemically active pigments and as opaque pigments. Chemical reactions in which they take part are necessary for making durable paints with linseed oil but the proportions of white lead and zinc oxide necessary for chemical effects are much less than those necessary for opacity. Opacity, of course, is the property of concealing the underlying surface. Titanium dioxide, though inactive chemically, furnishes far more opacity than white lead or zinc oxide, in fact about 4.2 times as much. It is therefore convenient to define the "equivalent opaque pigment" as the sum of the white lead plus zinc oxide plus the titanium dioxide plus a "diluent allowance" of 3.2 times the volume of the titanium dioxide. Paints of the same content of equivalent opaque pigment have approximately the same opacity. Apart from chemical activity and opacity, however, house paints need a correct volume of total pigments both to give them proper working properties and to make them durable. In modern *TLZ* paints, the necessary total pigment greatly exceeds the sum of white lead, zinc oxide, and titanium dioxide needed for chemical activity and opacity. The difference is properly made up of inexpensive pigments of low opacity such as magnesium silicate, barium sulfate, silica, calcium carbonate, or mica, which are often called extenders.

Use of bodied oil

Most of the liquid portion of good house paint is linseed oil, though it may be replaced in part by soybean oil. Normally most of the oil is raw oil or boiled oil. Raw oil is the oil as it is obtained from flaxseed or soybeans or refined to remove impurities. Boiled oil has had small proportions of lead, manganese, or cobalt soaps (driers) added to make it dry more rapidly but it is otherwise similar to raw oil. A small part of the oil, however, may be bodied oil, which is oil that has been thickened greatly in viscosity by being heated for some time to 400° to 600° F. or by treatment with certain chemicals.

A small amount of bodied oil imparts favorable working properties to most house paints; when large proportions of bodied oil are used it is to "conserve oil" as is explained later in this article. Tung oil, which can be used only in the bodied form, may be used in place of bodied linseed oil or soybean oil. Resins are not used in white or light-colored house paints of good quality. The pigments plus the drying oils make up the nonvolatile content of paint. These are the ingredients that remain in the coating after the paint has been applied and has dried.

Normally a small proportion of mineral spirits, a product obtained from petroleum, is useful in paint to improve its working properties, particularly in helping the paint to wet the surface quickly so that it will spread readily. When much bodied oil is used, however, the proportion of mineral spirits must be increased to compensate for the thickening of the bodied oil. The mineral spirits evaporates soon after the paint has been applied.

Titanium dioxide

In 1920, white lead and zinc oxide were the only opaque white pigments available for high-grade house paints. Titanium dioxide was not yet available commercially; zinc sulfide was considered inferior and it often turned dark in sunlight, a defect that has since been corrected.

By 1930 titanium dioxide was commercially available, chiefly as the composite pigment titanium-barium, which then consisted of 25 percent titanium dioxide and 75 percent barium sulfate by weight. The titanium-barium at first was used chiefly to replace the pigment of low opacity in the former *LZ* paints. It was some time before the industry generally appreciated that titanium dioxide was far more than an inexpensive means of increasing the opacity of paint and of concealing the presence of extenders in the label formula. The new pigment made it possible for the first time to apportion the white lead and zinc oxide strictly according to the degree of chemical activity needed for best performance, for the required degree of opacity could always be made up with titanium dioxide. Opacity, chemical activity, and content of total pigment were now capable of being adjusted almost independently of one another; the door was wide open for designing house paints according to sound engineering principles.

Recent progress

The decade from 1930 to 1940 was one of extraordinary technical progress in house paints. It was found that there are important advantages to be gained by reducing the content of white lead and zinc oxide in *TLZ* paints well below the proportions required in *LZ* paints, in which the minimum content is fixed by the consideration of opacity rather than chemical activity. As the level of *L* and *Z* was reduced it was found that the *TLZ* paints were less and less inclined to become soiled with dirt during their first year or so of service and when they began to chalk, as all good paints do, they shed whatever dirt they had collected more and more completely. White paints were thereby definitely improved in appearance throughout their useful life. In addition, decrease in the level of *L* and *Z* also resulted in delaying the time when paint checking begins. Paints with a high level of lead and zinc commonly show checking, that is, small breaks or fissures in the surface of the coating, when they are 12 to 18 months old, provided the coating is fully exposed to sunshine and rain. Paints with a much lower level of lead and zinc may go 24 to 30 months before checking begins.

The decrease in the level of *L* and *Z* was effected chiefly by reducing the content of white lead rather than

that of zinc oxide. The reason was largely economic, because white lead is more costly than zinc oxide. There are, however, technical reasons. Zinc oxide in the proportion generally used is effective in keeping paints free from discoloration by mildew in places where there is much dampness. Moreover the conspicuous improvement in cleanliness obtained by decreasing the level of chemically active pigments is achieved satisfactorily only when zinc oxide is retained in the formula. Serious efforts were made to design zinc-free paints of group *TL*, containing white lead, titanium dioxide, and extenders. The *TL* paints, however, were found to gather more dirt than pure white lead paint, then to pass through a very spotty stage in which parts of the surface shed the dirt while other parts retained it, though they finally became clean and bright. The *TL* paints would have most of the desirable properties of pure white lead paint if means could be found for avoiding the excessive dirt collection and uneven shedding of the dirt. Such means may someday be found.

Gains and losses

Improved cleanliness and delayed checking, however, were not gained without some sacrifice. Tinted paints such as gray, cream, and buff colors, which are white paints to which small proportions of colored pigments have been added, tend to fade more seriously as the level of *L* and *Z* is decreased. The earlier *TLZ* paints with medium *L* and *Z* faded very badly indeed. Later on, new modifications of titanium dioxide were developed, which made it possible to keep the fading within acceptable limits, though they still fade more seriously than the older high-level *LZ* or *TLZ* paints.

Another advance of the decade 1930 to 1940 was the establishment of the importance of a high content of total pigment. Oil without pigment is not very durable; a layer of dry pigments, of course, cannot be held together in a coating without the binder provided by dried linseed oil. Somewhere between these extremes there must be an optimum proportion of pigment and binder. Research revealed that, for the pigments of the degree of fineness used in white and tinted house paints and a vehicle consisting chiefly of raw or boiled linseed oil, the best proportion usually is one in which the total pigment is approximately 30 percent of the total nonvolatile (pigment plus linseed oil) by volume. A paint containing 0.3 gallon of pigment and 0.7 gallon of linseed oil, however, would be too stiff in consistency to be brushed out properly. By thinning it with enough mineral spirits to dilute the pigment to 0.25 to 0.27 gallon per gallon of the mixture, a paint of good consistency for application was obtained which, when the mineral spirits evaporates as the paint dries, leaves a coating with the desired proportion of total pigment.

Differences in composition

These considerations led to the sort of paint indicated for 1940 in the table. Compared with the 1930 paint, the chemically active pigments were down nearly a third, the equivalent opaque pigments were up a third, the total pigments up nearly a fifth, and the total nonvolatile down a twentieth. In the 1930 paint, the total pigment was about 24 percent of the total nonvolatile, in the 1940 paint it was about 30 percent, and in the 1947 paint it is about 35 percent.

The changes since 1940 mark a recession in paint quality forced by shortages in supply of materials. There has been a further decrease in the proportion of white lead, as indicated by the 1947 paint in the table. Many manufacturers, in fact, have reduced the white lead still further, thereby making paints in which the *L* plus *Z* come to less than 40 percent of the total pig-

If you must paint this year:

The quality of house paints improved steadily between 1930 and 1940, but war brought shortages in essential ingredients which spelled a slump in paint quality. The result was that many homeowners postponed painting year after year, hoping that paint quality would improve before the old paint job deteriorated too far.

Paints are not yet back to prewar quality, however. The most serious lack is that of linseed oil, which has made it necessary for paint manufacturers to use "bodied" oils. The paints which result are, in their working properties, a cross between paint and enamel.

If the paint now on your house is not in too bad condition it may be worthwhile for you to wait another year, with the hope, but by no means the certainty, that paints will be better then. If you can't wait, the important thing is to get a good, reliable painter, who will apply the new paint with due regard for its changed working qualities. To quote CU's paint consultant:

"The 1947 paint is capable of giving essentially the same performance as the 1940 paint, if it is properly applied. The 1947 paint, however, is somewhat more tiresome to work with and is more expensive to use because it takes more paint to coat a given area of surface."

If the painter adds more paint-thinner to make the paint easier to apply, the resulting coat is likely to be too thin, and as a consequence to lack durability. Hence the importance of selecting a reliable painter if you must paint this year.

ment. Some technologists advocated such paints even before the shortages of materials began and expect them to become permanently established. The discovery that paint could be made both better and cheaper at the same time was an exhilarating experience for the paint industry, one that was bound to be carried too far. The lowest point to which the *L* plus *Z* can safely be reduced is hard to determine precisely and remains largely a matter of judgment. It can be said, however, that all of the improvement in performance from lowered *L* plus *Z* can be realized without going below 40 percent *L* plus *Z*. Any saving in cost which the manufacturer makes by going below 40 percent is small and is not likely to be passed on to the consumer.

Paint vehicle

The most important change between 1940 and 1947 is in the paint vehicle. The linseed oil is reduced from a total of 0.61 gallon in the 1940 paint to a total of 0.47 gallon in the 1947 paint. To accomplish that saving in oil about half the oil must be in the thickened form of bodied oil so that the paint will not be too thin in consistency when extra mineral spirits is added to take the place of the oil saved. The bodied oil also has an important effect on the condition of the pigments. In raw oil paints the pigments gather together in soft clumps to a considerable extent, that is, they are flocculated. In enamels, which have highly bodied vehicles, the pigments are thoroughly dispersed or deflocculated. The striking differences between paints and enamels in their working properties are due largely to such differences in the dispersion of the pigments. The mixture of raw and bodied oil in the 1947 oil-restricted paint produces a condition intermediate between the extremes of paint and enamel. For that reason the few house paints of that kind which were available before 1940, and which sold rather unsuccessfully were commonly called "enamelized" paints, a term that seems most appropriate for such paints.

The 1947 paint is capable of giving essentially the same performance as the 1940 paint, if it is properly applied. The 1947 paint, however, is somewhat more tiresome to work with and is more expensive to use because it takes more paint to coat a given area of surface. There is a necessary connection between the content of total nonvolatile in a paint and the volume of that paint required to build a coating of given thickness when dry on a given area of surface. A simple calculation shows that a finish coat 2 mils (0.002 inch) thick after it dries is obtained on 2500 square feet of area, say a modest 6-room house, when 3.42 gallons of the 1920 or 1930 paints or 3.57 gallons of the 1940 paint have been applied, but with the 1947 paint it takes 4.35 gallons of paint. The consistency of the 1947 paint is such that in practice the painter will actually tend to use about 4.35 gallons where he would have used only 3.57 gallons of the 1940 paint. This is a hidden price increase of nearly 22 percent over the 1940 paint in addition to the increase that has taken place in the price per gallon. Moreover it is still only part of the story because it takes more labor to apply an additional three-quarters of a gallon of paint and the cost of labor for applying it has also gone up greatly.

Result of "stretching"

Of course the painter could "stretch" the 1947 paint either by brushing it out further or by carefully adding more paint thinner, but if he does, the coating will be correspondingly thinner when it dries. If 2 mils was the thickness needed for good durability, the thinner coating will wear out that much sooner. The choice, therefore, is one between more paint to get the same service or less service from the same amount of paint.

Pure white lead paint is now practically unavailable in the prepared (ready-mixed) form and is hard to find in the paste form. When 100 pounds of soft paste white lead is mixed with 3 gallons of "replacement" linseed oil it makes prepared paint containing about 0.26 gallon of total pigment, 0.77 gallon of total nonvolatile, and 0.23 gallon of volatile thinner per gallon, which is comparable with the 1947 paint in the table. The "replacement" linseed oil is a mixture of raw oil, bodied oil, and mineral spirits. Such white lead paint is subject to the criticism already given of oil-restricted paints on the score of economy but in service it will usually stay a little cleaner than oil-rich white lead paint and will perform otherwise in much the same way. Pure white lead paint has one important advantage over any of the paints that contain zinc oxide; the pure white lead paint wears out by crumbling in such a way that it can be allowed to go a long time past the point at which repainting is desirable without looking too unsightly and without adding greatly to painting costs when the repainting finally is done.

Avoid "new" paints

Those householders who can safely postpone exterior painting for another year or more certainly will be well advised to do so. Many, however, have already deferred it for several years beyond the point at which repainting would be done in normal times. If the paint coating has begun to come loose on much of the areas exposed to greatest sunshine, it will be best to repaint this year, using paint of as nearly as possible the same type as the old paint. Use of an oil-restricted instead of an oil-rich paint, if otherwise reasonably similar, adds to the cost but is not greatly objectionable otherwise. In any case, buy only paints that bear a statement of the composition on the label and for which no spectacular claims of superiority over former paints are made. Avoid anything called "plastic paint" or said to be something radically new.

Health and Medicine

Harold H. Aaron, M.D. — Medical Adviser

The Thyroid Gland

CU's Medical Adviser discusses disorders of the thyroid gland and how doctors treat these disorders

In the minds of most people, the thyroid gland is an organ somewhere in the neck and having something to do with the "basal metabolism." A basal metabolism test is now almost a routine test in medical practice — attesting to the frequency of disorders of the thyroid gland. Hypothyroidism or myxedema (a deficiency in the secretion of hormones by the thyroid gland), and hyperthyroidism or exophthalmic goiter (excessive hormone secretion), are the two most dramatic and most common disorders of the thyroid gland.

It is a striking fact that thyroid gland disorders are most common in the United States and in the countries bordering on the Baltic and North Seas. This includes the most advanced countries of so-called Western civilization. Whether the frequency of thyroid disorders can be attributed to a way of life in these countries or to peculiar climatic conditions or to both is still unclear. Certainly geography plays a role in so-called simple goiter, a disorder of the thyroid caused by a deficiency of iodine in the soil and water. The use of iodized salt in preventing simple goiter is one of the great achievements of preventive medicine in this century.

While simple goiter has been practically eliminated in this country (at least where the use of iodized salt is a public health policy), the incidence of other and more common disorders of the thyroid gland — hypothyroidism and hyperthyroidism — has not been affected by advances in preventive medicine. If anything, their incidence has increased and this has been attributed by some investigators to the pace and tension of living in Western society.

Other glands involved

Hypothyroidism will be discussed in part in a forthcoming issue, but it is useful to point out now that like its opposite, hyperthyroidism, it is the result of a disturbance in a glandular setup involving not only the thyroid gland but also the gonads and probably the pituitary and adrenal glands as well. Infantile hypothyroidism or cretinism occurs in the first four years of life before sexual development has taken place. In the adult female, the use of X rays, radium, surgery, or the natural course of menopause may cause hypothyroidism. In the male, hypothyroidism is less frequent, but it generally occurs as part of the aging process.

The opposite of hypothyroidism is hyperthyroidism or thyrotoxicosis. When the eyes are prominent or staring and the thyroid gland is enlarged, the condition is called exophthalmic goiter. Although the thyroid gland is usually enlarged in hyperthyroidism, the disorder is not primarily a disease of the gland. In fact, the cause is almost a complete mystery. It is true that in many cases extreme nervous shock or excitement sets off the symptoms, but there is no real proof that the disease is primarily the result of an emotional disturbance. Most doctors acknowledge the importance of emotional factors in hyperthyroidism (as in every other disorder, for that matter), but they prefer to consider it a condition in which, for some obscure reason, the thyroid gland discharges into the blood and tissues more than the usual quantity of its specific hormone.

Overactivity results

The excess hormone in the circulation causes overactivity of all the organs of the body, but its effects are most striking on the weight, muscles, circulation, nervous system, and occasionally, the eyes. The person with hyperthyroidism loses weight and strength, becomes nervous and excitable, and is subject to extreme mood changes; often he has prominent eyes and a swollen thyroid gland in the neck, and invariably shows changes in temperature regulation and circulation.

The exact chemical nature of the thyroid hormone is in dispute. "Thyroxine" and "thyroglobulin" are iodine-containing substances which are leading candidates for the title of thyroid hormone. One of the hormone's chief functions is to assist in the oxidative process in the body. An excess of hormone will accelerate or increase this process. An objective measure of the extent of this oxidation process is the basal metabolism.

The basal metabolism test actually measures the rate of heat production in a person who has rested without food for at least 12 hours. The rate of heat production is indirectly an expression of the oxidation going on in the tissues. The basal metabolism or basal metabolic rate varies with age, sex, and size. In persons of the same

age and sex, basal metabolism varies with both height and weight or more precisely with the surface area. Those who have had basal metabolism tests are familiar with the charts used by doctors in calculating surface area. From childhood on, the basal metabolism of females is, in general, distinctly lower than that of males of the same size. It is also subject to greater fluctuations in the female because the thyroid gland and other endocrine glands function at different levels of activity in women during puberty, the menses, pregnancy, after pregnancy, and at the menopause.

Tests subject to error

While the basal metabolism test is an objective measurement of the rate of metabolism in the resting body, like all other tests, it is subject to errors in measurement and interpretation. It is difficult to get a true reading from a single test taken in a doctor's office. In some leading medical institutions, the patient is hospitalized, and the tests are given on successive days while the patient's activities and diet are controlled. Usually the lowest of a *series* of tests is considered to be the accurate one. Of course, such precise methods of measurement are possible only in a medical center where costs are unimportant.

The person who seeks medical care from a private practitioner and requires a basal metabolism test must perforce remain content with a single test performed on one morning's visit. Because ideal conditions are not present for a really accurate test, the experienced doctor understands that the readings obtained are only an approximation, and often a crude approximation, of the actual basal metabolic rate of his patient. He must take into account the state of nervous excitement of his patient since it is notorious that in overactive, very tense persons, it is so difficult to control voluntary and involuntary muscular activity that the basal metabolism reading is almost valueless as an index of thyroid function. The experienced doctor uses the basal metabolic rate only as one of a number of criteria of thyroid activity. Thus, the finding of a basal metabolic rate of over 15 (normal = −15 to + 15) does not necessarily prove that a patient has hyperthyroidism. (An increased basal metabolism rate also occurs in other disorders, notably, those of the pituitary and adrenal glands.) The presence of characteristic signs and symptoms may be of equal or greater importance for the diagnosis of hyperthyroidism than a high basal metabolic rate.

The influence of mental factors on hormone disturbances such as hyperthyroidism is not yet well-defined. Some psychiatrists have claimed to cure hyperthyroidism by psychological methods alone, and thus have assumed that the disorder is primarily a psychological disturbance affecting the thyroid-endocrine apparatus. Other doctors acknowledge the profound influence of the psyche in hormone disorders, but insist that a constitutional tendency is necessary for the development of the disease. Still others, and probably the majority of experts in the field, assert that acute emotional disturbances are only one of many factors that can precipitate the development of hyperthyroidism, and that until the actual cause of the disease is discovered, psychotherapy should be considered as but one of the measures in the medical and surgical management of the disorder.

There is no doubt that unconscious mental conflicts (which have arisen from childhood experiences) as well as overt emotional shocks may have an effect on the function of the thyroid gland. Just as unconscious desires may affect the gastric juices and the activity of the intestines (as in peptic ulcer and mucous colitis), they may, in certain individuals, influence the production of the hormones regulating metabolism.

While there may be some doubt as to the exact part emotions play in causing hyperthyroidism, there is no doubt that the disorder causes profound changes in nervous behavior. Anxiety, restlessness and mood changes are common symptoms of hyperthyroidism. The intensity of the nervous symptoms is almost in direct proportion to the severity of the disease. This quantitative correlation between hormones and emotions was observed long ago by experienced clinicians. Dr. Sigmund Freud, who, through psychoanalysis, gave medicine a new and revolutionary technique for investigating and treating mental disorders, expressed the hope that the science of endocrinology would one day provide the insights and the methods for a more exact correlation of hormone changes and psychic processes. Certainly a closer working relationship between psychiatrists and endocrinologists is desirable for the study of disorders of the thyroid and other hormone producers and regulators.

Treatment of hyperthyroidism

Even though the cause is unknown, much can be done for the patient with hyperthyroidism. Surgical removal of part of the thyroid gland obviously is a treatment directed at only one aspect of the disease — the enlarged and overactive thyroid gland. Yet, it is amazing how effective surgery can be. The great hazards formerly associated with the operation have been removed or reduced by the preoperative use of inorganic iodine solutions. More recently, the discovery that certain sulfur-containing compounds — thiourea and thiouracil — can control the symptoms and reduce the basal metabolic rate has vastly improved operative technique so that only a single-stage operation is now necessary, and complications and mortality are reduced to a low level. (The average length of stay in a hospital has been reduced from about 55 days for patients prepared only with iodine solution to about eight days for patients prepared with both iodine and thiouracil.) Many medical centers have trained teams of internist-surgeons who

make a specialty of the treatment of thyroid disorders. Such combined medical and surgical management offers the best chances for a "cure" of hyperthyroidism.

In mild cases — that is, where symptoms are slight and the thyroid gland is not too enlarged — the use of iodine solution and thiouracil may induce complete relief without recourse to surgery. How long such relief will persist is unknown since hyperthyroidism is normally characterized by spontaneous remissions and relapses. As Dr. David Barr, Professor of Medicine at Cornell University School of Medicine has said, "Experience with thiouracil has indicated that the tendency to relapse is not removed by the drug, and also that an important role both in the incidence and timing of relapse may be played by such factors as insecurity, frustration, violent emotional trauma, and infection."

In addition to simple inorganic iodine solution and the newer thiouracil, radioactive iodine is now being used to study the physiology of the thyroid gland and for the treatment of hyperthyroidism. Radioactive isotopes of iodine are found to enter the thyroid gland and to carry a definite amount of radioactivity with them. Although X-ray treatment of the thyroid gland has been an accepted if not reliable method of treatment for many years, the use of radioactive iodine offers possibilities for more precise manipulation of the activity of the gland. At present, treatment with iodine isotopes can be given by only a few experts in our larger medical centers.

Advances in the knowledge and the treatment of such disorders as hyperthyroidism occur slowly. The cooperative work of physiologists, endocrinologists, and psychiatrists will hasten the solution of the mystery of hyperthyroidism.

The Blue Cross Plans

Hospitalization plans have many faults but they're still worthwhile for those who can afford the cost

There is a great deal of talk about health insurance these days, especially that type of health insurance which involves protection against the costs of hospitalization. Plans for hospitalization insurance which are approved by the American Hospital Association are collectively designated as "Blue Cross" plans and people commonly speak of any prepayment plan for hospital care as "Blue Cross." "Is 'Blue Cross' a good thing?" they ask. "And should I join a plan?"

The answer cannot be a simple yes or no. In many ways group hospitalization insurance is a sound investment. But it has many limitations which should be understood. In some respects the Blue Cross movement has actually opposed the interests of the majority of its subscribers and the general public.

Where it started

The group hospitalization idea took root in Dallas, Texas, in 1929. The teachers at Baylor University decided to pool their resources to finance any needed hospital care for one of their ranks at the local hospital. For a few years nothing much happened, but then at the depth of the depression in 1932 and 1933, with their accounts deeply in the red, hospitals in the Northeast became interested in the idea. Instead of building an insurance fund for care at one hospital, associations were organized to provide insurance for care at any one of a number of hospitals in the community. This proved to be such a sensible device for assuring payment of hospital bills in those dark days that the idea was encouraged by hospitals in dozens of communities. It made good sense, moreover, for low-income or middle-income people to be protected against the high cost of hospital care in serious illness, at a time when there was little money to spare.

Plans developed rapidly in practically all the larger cities and in most states. Membership went constantly upward — although the rate of growth was not constant. Today the rate of growth has definitely slowed down. The latest membership figures show about 25,000,000 persons in Blue Cross plans — about 80 of them — throughout the country.

This sounds like a lot of people, and it is. But to any one who is thinking of the health of the whole nation, it is evident that it means about 18 percent of our current national population of some 140,000,000. Eighty-two percent are without this form of health insurance. More important, membership is largely concentrated in a few areas of high industrialization and high prosperity. The rural population is scarcely reached; no more than two or three percent of them are members.

What are the benefits offered by Blue Cross plans to this 18 percent of our population? They vary somewhat from plan to plan, of course, but generally they consist

of payment of hospital bills covering a semiprivate room for up to 21 or 30 days a year, or for each illness, when a subscriber is hospitalized in a "participating hospital." Sometimes half the cost will be paid for days beyond this maximum, up to 60 or 120 days a year. Payment ordinarily covers the expense of basic hospital services beyond room and meals, such as general duty nursing care, use of the operating room, routine laboratory tests, simple drugs and dressings, and related items.

But Blue Cross doesn't by a long shot cover all your expenses when you have to go to the hospital. Most important, it doesn't pay your doctor's bill. If the reason for your hospitalization is an operation, the surgeon's fee may be higher than the hospital bill, but Blue Cross doesn't touch it. Then there are generally a number of exclusions, limitations, or waiting periods. Many plans, for example, exclude protection for the hospitalization of "pre-existing conditions" — that is, the care of chronic ailments that you may have had at the time you joined up. These conditions may represent your greatest need for medical care. Frequently certain age groups are excluded: infants under 30 or 60 days, or persons past 65 years — periods when medical needs are particularly great. Often there are waiting periods for maternity care or for certain surgical operations and sometimes there is complete exclusion of hospitalization for such common causes as tonsillectomies or hernia operations. Many plans exclude protection for hospitalization required in cases of drug addiction or venereal diseases. While nearly all plans cover routine drugs and laboratory tests, most place limitations on such expensive items as X-ray services, plasma or blood, oxygen, and other supplies or services which may be essential to recovery. Nearly all plans require membership in groups, for example, the workers in a factory. This is intended to insure a good "spread of risks" and is justified in any health insurance plan with voluntary enrollment.

Most medical costs uncovered

Despite all the exceptions, Blue Cross plans do cover the largest part of the hospital bill in the great bulk of cases. The real question is: "Against how big a share of the total medical expenses of a family do they offer protection?" In other words, how much of the total risk of sickness is buffered by Blue Cross insurance?

The answer to this may be surprising to some people, but if all expenses for medical care are considered, it is found that less than 15 percent are, on the average, for the hospital bill. The other 85 percent go for the physician's services in the home, the office, and the hospital, for drugs and appliances, for dental care, for eye care and eyeglasses, for laboratory services, for nursing care by private nurses, for physiotherapy, X ray, and all the other items involved in complete medical care. Of course, when hospital bills hit, they tend to hit hard — especially because they're usually associated with high expenses for doctor's services, private nurses in the hospital and the home, and so on. But, taking an average over the whole community, hospital bills are less than one-sixth of the financial headache for the average family. Blue Cross really provides for appreciably less even than this, because, it must be remembered, it doesn't even give *complete* hospital care (limited to 30 days per year or per illness with all the exclusions, etc.).

With this in mind, how much are we getting for our money? Average Blue Cross membership fees used to run about $2 a month for a family or $24 a year. This doesn't seem like a lot of money, but it really means that less than 15 percent of average expenses are insured against for $24. At this rate, 100 percent protection against sickness costs would, conservatively, require an annual expenditure of $160. Now, an average family should spend no more than about four percent of its income on medical care, according to all authorities on family economics. On this basis, an annual income of $4000 would be required to provide complete health insurance at the Blue Cross rate.

Who can afford Blue Cross?

This means that Blue Cross prices are really within the means of only a small minority of the population. Of course, many families earning less than $4000 a year belong to Blue Cross plans, but this is simply because of the subtleties of medical economics which hide true costs. Most of all, it probably means that people are willing to spend beyond their means to provide themselves with insurance especially when it involves the threat of catastrophic illness requiring hospital care.

The situation today is really worse than suggested by the above analysis. For hospital costs almost everywhere have gone up and with them Blue Cross membership fees. Monthly fees of $2.50 or $3 ($30 or $36 a year) are now quite common, which should properly require — in terms of the previous analysis — annual incomes of $5000 or $6000.

All this is not to imply that members of Blue Cross plans are getting a raw deal and should promptly drop their memberships. On the contrary, Blue Cross plans are far better than nothing and offer, in general, the "Best Buy" in insurance against hospital costs that is now available in this country. It's simply that they're not so good a plan as could be developed under a program of compulsory national health insurance, in which the whole population would be covered, with supplementation of insurance contributions by funds from general revenues.

Compared with hospitalization insurance offered by an increasing number of commercial insurance companies, Blue Cross policies tend to be superior. The chief reason for this is that Blue Cross plans provide

you a service, while commercial plans only indemnify you for a certain cash amount, in the event of hospitalization. Seldom does the indemnification pay the whole bill. There tend to be more exclusions and limitations in the commercial policies, and they are more rigidly policed. There is far more red tape for the patient in commercial arrangements, while under Blue Cross plans nearly all the administrative paper work is done by the hospital. Because Blue Cross plans are operated on a nonprofit basis, their charges for membership tend to be lower than the cost of commercial policies offering similar benefits.

Subservience to hospitals

These are generalizations, of course, and among the scores of different companies and Blue Cross plans, there may be an occasional exception. Some Blue Cross plans, for example, are so thoroughly subservient to the wishes of participating hospitals, rather than subscribers, that they pay extravagant rates to the hospital for services rendered to a subscriber. Their accumulated reserves may be pumped into such higher payments to hospitals, rather than expanded benefits or reduced membership fees. While the plan staff, itself, may not make a profit, therefore, the hospitals may exploit the setup. In such instances, a commercial policy may offer a better buy.

Blue Cross plans have made a contribution in American health planning which really exceeds the specific benefits rendered to their members. They have shown that health insurance is a good thing. While they were once opposed bitterly by the doctors, who accused the hospitals of "trying to practice medicine," Blue Cross plans have now won the enthusiastic support even of the American Medical Association. People have been educated about insurance against sickness.

The negative lessons of Blue Cross are just as important. They have shown that plans organized solely on a voluntary basis cannot reach the great majority of the population. Their membership fees tend to be so high — for what you get — that persons in the lowest income groups, needing protection most, cannot afford to join. Rural families are very meagerly reached. They tackle only a segment of the problem, starting at the opposite end from a preventive approach. Before you can use Blue Cross, in other words, you have to become so sick or disabled that hospitalization is necessary. Little has been done to improve the quality of medical service. The big test of these voluntary plans will come when the next depression (which most economists predict) strikes. What will happen to memberships and plan solvency when wages decline and people lose their jobs?

Blue Cross plans are identical with commercial plans in one important respect. They all oppose a government program of nationwide health insurance and are fighting it tooth and nail. Despite the fact that Blue Cross plans a decade before were accused of being "socialistic" and what not, they, themselves, now drag the outworn red herring across the path of any effort to bring medical care to everyone under a public insurance system. They fail to appreciate that under a government-sponsored program of comprehensive health insurance, Blue Cross plans could play an important role in the administrative framework.

Democratic control lacking

This backward position taken by Blue Cross leadership is undoubtedly related to the fact that the plans are, on the whole, undemocratically controlled. There is seldom any representation of the membership on the Boards of Directors, which tend to be dominated by the hospital administrators. Prosperous pillars of the community are generally found on the boards, but their interests lie closer to the hospitals — of which they are often trustees — than to the rank and file membership. Little is done to encourage consumer participation in management or the formulation of policies.

Till something better is available, it would seem wise to maintain membership in the Blue Cross plan in your community, if you feel you can afford it. For such a risk as sickness costs, which may hit very hard, some insurance is generally better than none. Meanwhile, civic-minded people should push for consumer representation on Blue Cross boards of directors and for encouragement of membership participation in the shaping of policy. With this, it is likely that Blue Cross plans would cease to play a role in obstructing the enactment of social security legislation for complete medical care, but would rather hasten its achievement.

The Health and Medicine Section

What kind of medical articles do you *want in the* Reports?

Do you think CU should publish more material on new drugs or dangerous drugs?

Do you think there should be more articles on such ailments as cancer, tuberculosis, and diabetes?

Do you feel the Reports *should give greater emphasis to psychiatry and psychoanalysis?*

Would you like to see a monthly column on dental problems?

Would you like more on child training, child psychology, and children's health?

Do you feel that there should be more articles on such common ailments as allergies, or foot troubles?

If the answer to any of these questions is "Yes" please say so on your copy of the annual questionnaire. *(See page 134.)*

Tonsillectomy in Children

The evidence indicates that there is no medical justification for a large percentage of tonsillectomies

There are many traditions and practices in current medical treatment that have no scientific basis. What is accepted as truth today may prove to be false tomorrow. For example, it was common practice up to a few years ago to cleanse babies' mouths scrupulously, presumably to remove germs, although these germs were never proved to do any harm to the infant. Now it is known that the vigorous cleansing actually lowered the resistance of the mouth to infection and often resulted in ulcer of the palate.

One current practice in child care now considered unwise by leading pediatricians is routine tonsillectomy. In the first place, the operation is not entirely harmless. Among the serious complications are hemorrhage, septicemia, pneumonia and other lung infections. Deaths from anesthesia administered during the operation, though rare, have also occurred. Where the operation is absolutely essential, these complications have to be risked. But there is serious doubt that tonsillectomy is required as often as it is practiced.

That tonsillectomy is often prescribed without really definite indications was shown more than twelve years ago by the American Child Health Association. It surveyed a group of 1000 children, 11 years of age, from the public schools of New York City, and found that about 60 percent of these had had their tonsils removed. The remaining 40 percent or so were examined by a group of physicians who decided that 45 percent of these required tonsillectomy. The remaining 55 percent who, according to this first group of physicians, didn't need tonsillectomy, were then re-examined by another group of physicians who recommended an additional 46 percent of these children for tonsillectomy. When the remaining children, who, according to two groups of doctors, didn't need tonsillectomy, were examined a third time, a similar percentage was selected as requiring tonsillectomy. The remaining 65 children were not re-examined only because the supply of examining physicians gave out. But it is clear that tonsillectomy was advised on pretty insecure evidence, or even on the whim of the examining doctor.

Dr. Hobart A. Reimann, Professor of Medicine at Jefferson Medical College, points out in a recent article that colds occurred in children or adults equally whether or not tonsils had been removed. Nor did tonsillectomy and adenoidectomy reduce the incidence of sinusitis, laryngitis, or bronchitis. However, children who had *enlarged* adenoids that obstructed the nasal passages did have fewer colds after the adenoids were removed. Removal of tonsils in rheumatic fever and rheumatic disorders in young and old has not succeeded in preventing recurrences of the rheumatism or shortening its duration.

The report of the American Child Health Association also indicates that the focusing of interest and effort on tonsillectomy often leads to neglect of defects that are really in need of correction. It was found that even in groups of children who had severe dental caries and visual difficulties for which almost nothing had been done, about 60 percent had had their tonsils removed. It is obvious that money spent on tonsillectomy could have been better employed for more useful health measures.

Lemon Juice Can Damage the Teeth

For many years consumers have been told about the virtues of lemon juice as a laxative, weight reducer, cold cure, tonic, and as a means of relieving rheumatism.

It is probable that some people with mild constipation have been helped by taking lemon juice. But as pointed out in the March issue of the *Reports*, almost any fluid, hot or cold, taken on an empty stomach in the morning will start motor movements of the intestine. Mild cases of constipation would probably be helped as much by tap water as by lemon juice. Severe cases will be helped by neither. As for the treatment of colds, weakness, overweight, and rheumatism, there is no evidence that lemon juice is of the slightest value.

But of far greater importance than the supposed virtues of lemon juice as a laxative is the fact that its use can be responsible for serious damage to the teeth. Two Mayo Clinic dentists have just reported 50 cases of dissolution of the enamel of the teeth in persons who habitually took lemon juice. The report emphasizes what dentists have known for many years — that lemon juice is quite acid and causes marked "decalcification" of the substance of the teeth.

The one real virtue of lemon juice is that it is rich in Vitamin C. But the vitamin can be obtained from less acid citrus juices such as oranges and grapefruit. And if lemon juice for some reason *must* be taken, it should be sipped through a straw so that contact with the teeth is minimized.

Bread & Butter

Reports and analyses of economic and legislative developments affecting consumers

Monopoly and the Economy

"The monopoly problem is today more serious than at any time since the passage of the Sherman Act. . . . The real source of the threat to free enterprise . . . lies in monopolistic control over our great industries. If we really believe what we constantly say about the necessity of preserving free enterprise then the time to act on this affirmation is now. . . . It is sheer delusion to believe that we can tolerate regimentation by monopoly without in time necessitating regimentation by government." — From a recent speech by former Assistant Attorney General Wendell Berge.

The long-continued trend toward concentration of economic power in the hands of fewer and larger corporations — accentuated during the war — is a major postwar problem for the American people. Domination of the economic life of the country by a small group of giant corporations controlled, in turn, by a handful of individuals, is a serious threat to the future welfare of the people and the country. During the war years action on the problem was repressed on the ground that it would interfere with the war effort. But now that recent government reports have disclosed the enormous wartime strengthening of the monopolies, public concern has been aroused and is reflected in the antimonopoly legislative programs introduced in Congress.

An old problem

The monopoly problem is by no means new. Trust and merger movements, which flourished from the 1880's to the turn of the century, led to the enactment of antitrust legislation. But despite antitrust statutes and the dissolution of some major trusts, the trend toward big business domination of the American economy was never really halted.

In 1909, the 200 largest nonfinancial corporations in the United States owned one-third of the total assets of all nonfinancial corporations. Since 1909 there has been a more or less steady growth in the concentration of economic control exercised by the giant corporations. In 1929, the 200 largest nonfinancial corporations owned 48% of all nonfinancial corporate assets; by the mid-thirties they owned 55%.

Another indication of monopoly growth is the concentration of corporate income. The portion of the total net income of all nonfinancial corporations received by the 200 giants rose from 33% in 1920 to 43% in 1929.

Congressional investigations and antitrust laws, it is clear, did not prevent the monopolies from increasing their control over the economy. The monopoly threat is far more acute today than at the beginning of the antitrust movement in the last two decades of the nineteenth century. If the problem is to be solved, the people must know the facts about monopolies and their practices and the ineffectiveness of existing antimonopoly legislation.

Since living standards are affected by monopoly practices, the consumer has a big stake in working for the effective regulation and control of monopoly. Monopolies extort a toll from consumers in most of their everyday purchases. Generally, monopolistic controls are not openly apparent to consumers when they buy at retail, but the fact is that monopolies dominate the major channels of production and distribution. When consumers purchase food, clothing, shelter and other living essentials, they pay heavily for monopoly control of raw materials, manufacturing processes, and transportation. Production rates and prices are determined largely by giant corporations which think first of perpetuating their economic domination and increasing their profits, and only secondly, if at all, about the needs and wishes of consumers.

The need for the people to combat the growing power of the monopolies has long been recognized. A report published by the Senate Small Business Committee in 1946 points out that "for more than 50 years a considerable body of American public opinion has believed that the prevailing degree of economic concentration was greater than technology required, and was substantially greater than was socially desirable. It was

contended that economic concentration was being extended, not to raise output, productivity, and living standards, but rather to assure monopolistic profits by restricting production and maintaining prices at high levels. In response to this public opinion many congressional investigations on this subject have been held. The existence of the antitrust acts, the Antitrust Division of the Department of Justice, and the Federal Trade Commission are a testament to this view."

With the monopoly threat more serious than ever before, it is necessary for the public to become familiar with the nature of the concentration of economic power if a program for curbing the monopolies is to be developed. Monopolistic controls do not exist merely in isolated sectors of the economy; they dominate its basic processes. That becomes clear when we examine the available data on the extent of economic concentration.

For the period 1931 through 1942, the percentage of total manufacturing assets held by corporations with more than 50 million dollars in assets rose sharply. This group of corporations represents the giants of industry and can be used broadly to indicate the trend in economic concentration. This group owned 46% of total manufacturing assets in 1931. After a decline to 37% in 1934, following the years of the Great Depression, their ownership was extended to 49% of all corporate manufacturing assets in 1942.

Another indicator of economic concentration can be found in the distribution of corporate net income. The largest profit-makers — corporations with annual net incomes of 5 million dollars and over — have grown steadily in importance. In 1918, for example, this largest-corporate-income group received 34.2% of the total net income of all manufacturing corporations. In 1929 their share had risen to 46.1%. By 1942 they accounted for 50.7% of total manufacturing corporate net income.

By contrast, the smallest income recipients — those with annual net incomes of less than $250,000 — obtained a decreasing proportion of corporate income. In 1918 this group received 23.4% of the total net income of all manufacturing corporations. Their share had decreased to 19.1% in 1929. By 1942 they accounted for only 11.6% of all manufacturing corporate net income.

Ownership in few hands

The relatively few giant corporations which have come to dominate the American economy are largely owned by a few thousand stockholders and are controlled by a handful of powerful financial interests. Before the war the Securities and Exchange Commission did a study of the ownership of the 200 largest nonfinancial corporations. The following conclusions indicate the narrowness of ownership in these dominant corporations.

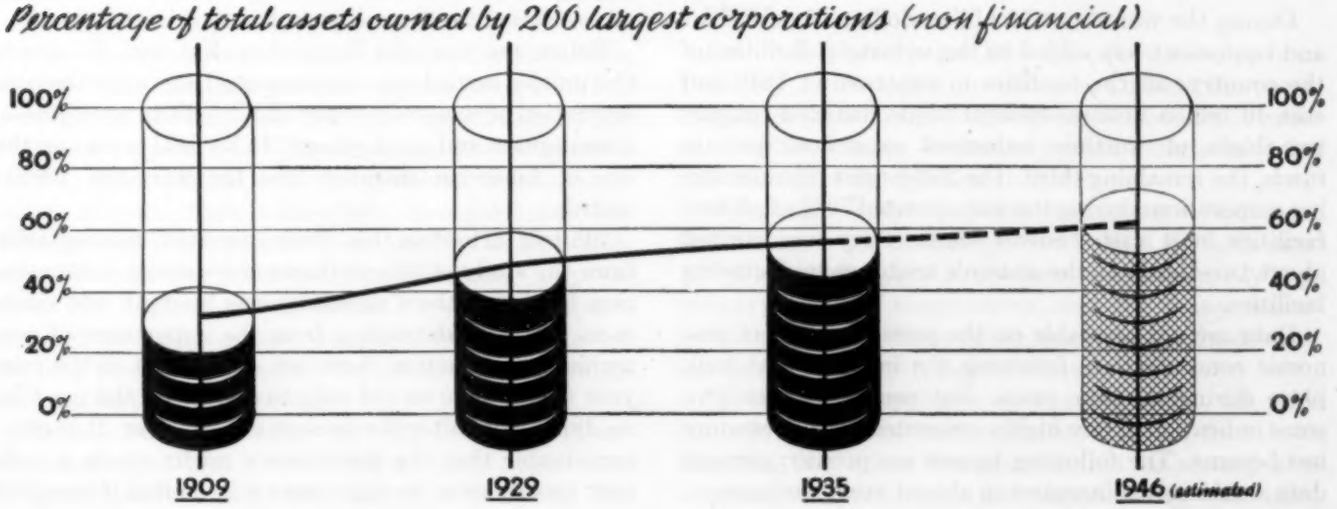
Only 10,000 persons (0.008% of the population) owned one-fourth of all the corporate stock in the country. Some 75,000 individuals (0.06% of the population) owned one-half.

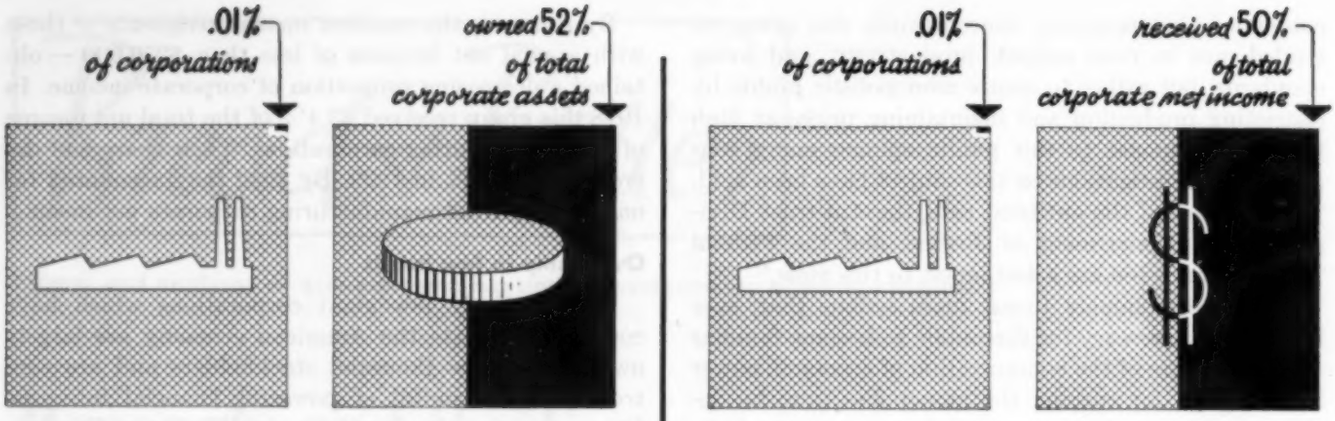
The 1000 largest dividend recipients got 10.4% of total dividends. Some 61,000 persons (0.047% of the population) received one-half of the dividends.

The top 1% of the book shareholders owned 60% of the common stock shares outstanding of the 200 largest nonfinancial corporations. The 20 largest book shareholders accounted for more than 50% of the common stock outstanding in about one-fourth of these corporate giants; from 25% to 50% in one-fifth of the corporations; and from 10% to 25% in one-third of the corporations.

The control exercised by a few dominant financial-interest groups was analyzed by the National Resources Committee in a study of the 200 largest nonfinancial corporations and the 50 largest financial corporations. These 250 largest corporations before the war con-

Percentage of total assets owned by 200 largest corporations (non financial)





trolled 46.5% of all the assets of nonfinancial and banking corporations. Within the group of these 250 giants, 8 major financial-interest groups controlled 106 corporations representing approximately 29% of all nonfinancial and banking assets.

The way in which these major financial-interest groups control the basic industries can be seen in the steel and copper industries. At the beginning of 1945 the four largest steel producers had 62.8% of the total steel ingot capacity of the United States. The ten largest steel producers had 77.7% of total steel ingot capacity. But three major financial-interest groups and one other corporation controlled eight of the 10 largest steel producers.

The four largest copper producers accounted for 86% of the country's output. In turn, the two largest producers were controlled by one major financial-interest group. This group dominated nearly two-thirds of the copper mining industry.

The war gave a big boost to economic concentration. Two-thirds of the Government's prime contracts went to the 100 largest corporations. The top 30 corporations received nearly half of all prime war contracts.

War aided monopoly

During the war about 26 billion dollars of new plant and equipment was added to the industrial facilities of the country; all the facilities in existence in 1939 had cost 40 billion dollars. Federal funds financed roughly two-thirds of wartime industrial expansion; private funds, the remaining third. The 250 largest manufacturing corporations during the war operated 79% of all new facilities built with Federal funds. They now control about two-thirds of the nation's usable manufacturing facilities.

Data are not available on the present extent of economic concentration, following the increase that took place during the war years. But prewar studies give some indication of how highly concentrated the economy has become. The following figures are prewar; current data would reveal increases in almost every instance.

The 45 largest transportation corporations owned 92% of all the nation's transportation facilities.

The 40 largest public utility corporations owned more than 80% of all public utility facilities.

The 20 largest banks held 27% of the total loans and investments of all banks.

The 17 largest life insurance companies held over 81.5% of all the assets of life insurance companies.

One-tenth of one percent of corporations owned 52% of total corporate assets.

One-tenth of one percent of corporations received 50% of total corporate net income.

Less than 4% of manufacturing corporations made 84% of all the net profits of all manufacturing corporations.

Thirty-three percent of the total value of all manufactured products was produced under conditions where the four largest producers of each individual product accounted for over 75% of total output.

More than 57% of the total value of manufactured products was produced under conditions where the four largest producers of each product turned out 50% of total output.

One-tenth of one percent of all firms in the country, employing 500 or more workers, accounted for 40% of all nonagricultural employment in the United States.

Before the war, the Temporary National Economic Committee carried out a monumental survey of the concentration of economic power and its effects upon prices, consumption and employment. In its final report on the eve of American entrance into the war, the TNEC stated:

"Public attention has been diverted momentarily from the study of the problems of economic concentration for which the Committee was brought into existence. Far from detracting from the importance of economic reconstruction, however, the events of the past year (1940) have served only to emphasize the need for readjustments after the present crisis is over. It is quite conceivable that the democracies might attain a military victory over the aggressors only to find themselves

under the domination of economic authority far more concentrated and influential than that which existed prior to the war."

Wartime developments confirmed the apprehension voiced by the TNEC in its final report. The study of the growth of economic concentration in World War II issued by the Senate Small Business Committee pointed out that "the relative importance of big business, particularly the giant corporations, increased sharply during the war, while the position of small business declined. Although small business increased its actual production and employment during the war, the relative gains made by big business were much greater."

Recent mergers

The report went on to state: "That big business actually will use its war-increased strength, especially its liquid funds, to improve its position and power over prewar levels is strongly suggested by the sharp rise in mergers and acquisitions which has occurred since the end of World War II. By the fourth quarter of 1945, acquisitions had reached the highest level since 1941, and in the first three-quarters of 1946 the number of mergers was almost double the corresponding period of 1945."

The prospect then is for an intensification of the process of economic concentration in the postwar period unless the trend is halted and reversed by effective antimonopoly action. In the report issued by the Senate Small Business Committee, the conclusion was that "economic concentration will probably be higher in the postwar years than before the war as a result of: the production improvements and scientific research which big business gained during the war; the increase in liquid funds and general financial strength of big business; the ability of big business to keep its name and trade-marks before the public eye during the war; and finally the fact that big business will probably acquire a greater share of war-built facilities which it operated than will small business, regardless of whether economic conditions are prosperous or depressed."

This outlook is not reassuring for consumers. The growth in the economic power of monopolies will be followed by tighter control of prices and production by the dominant corporations. Consumers will also be affected by the reorganization and resurgence of international cartels abroad. Their restrictions on exports and imports have a direct impact upon domestic living standards. Without the participation of American corporations, few of these cartels would be effective. Consequently, an antimonopoly program must be directed not only at domestic monopolies but also at their international cartel arrangements.

The problem is made more acute by lack of funds and personnel to enforce the existing antitrust legislation. Congress has been niggardly with appropriations. For example, the appropriation of the Antitrust Division of the Justice Department has been less than 2 million dollars a year for each of the years since its establishment except for the 1942 fiscal year. The result is that the Government has been unable to enforce the antitrust laws adequately, as has been shown by the steady growth in the concentration of economic power.

Moreover, there are gaping loopholes in the laws on the statute books. Investigations by the Federal Trade Commission have revealed that the Government is powerless to prevent acquisitions by monopolies when they purchase the assets of competing firms. Unless this loophole is closed, the merger movement will continue to grow and make a mockery of the antitrust laws.

What is needed, therefore, is an antimonopoly program that will work and will be backed by sufficient funds for effective enforcement. The urgent need for such action is clearly shown by four major developments: the tremendous increase in economic concentration during the war; the rapid growth of mergers since the end of the war; the inevitable increase in price-fixing arrangements following the destruction of price control; and the reorganization and re-emergence of international cartels.

All of these developments will adversely affect consumer living standards unless they are combated. Moreover, the future of political and social democratic institutions in the United States is linked up with what is done to fight against the monopoly control of our economy. In subsequent issues, Consumers Union will report on how the previous efforts to curb monopolies failed, and will outline steps that must be taken to meet and overcome the menace of the trusts before it is too late.

Bread and Butter Notes

Prices

Peak inflationary prices have brought a warning from President Truman that business should heed the handwriting on the wall and reduce prices voluntarily in order to prevent a later involuntary and dangerous price deflation. The President said:

"The main factor that can weaken our economy at this time . . . is selfishness — the kind of selfishness which is now expressed in the form of unnecessarily high prices for many commodities and for many manufactured articles. These prices must be brought down if our entire economy is not to suffer.

"With the exception of a very few items, all price controls have been removed. But freedom from such controls, like other freedoms, cannot be abused with impunity. A profound moral responsibility rests upon

those citizens whose decisions have widespread effect upon our markets — to put it simply, the responsibility of playing fair, of not going whole hog for profits. The alternative is inflation, industry priced out of the market, and eventually, men priced out of their jobs."

This appeal from the President was taken up by R. H. Macy & Company of New York, which, in full page advertisements, urged business and industry to reduce abnormal profit margins and lower prices. Macy's pointed out that "unless prices are lowered, we believe that a business recession is probable."

Macy's made two arguments that are familiar to readers of *Consumer Reports:* "The rising increase in efficiency should be translated into lower prices rather than into additional profits." And, "Profit margins in many cases are higher than normal. These profit margins, when pyramided from primary sources through the retailer are a substantial part of price rises."

Purchasing power lags

A year ago Consumers Union, along with many other groups, warned that unless effective price control was continued there would be sharp inflationary price increases. But Congress did not listen to the people; it followed the advice of the National Association of Manufacturers which said that if price controls were removed, production would be stepped up and prices would come down automatically.

Production did increase and it is now at the highest peacetime level in our history. But prices also rose faster than ever before, with the result that there has been a growing gap between the output of goods and available purchasing power. Even the NAM now expresses concern over excessively high prices.

Warnings from Washington and from isolated businessmen, however, will not bring about voluntary price reductions throughout the economy. The few price cuts that have been announced make the headlines, but have little effect on the general level of living costs. These costs are now so high that millions of families have been priced out of the market for almost everything except the barest essentials.

The big monopolies, which have skyrocketed the prices of steel, chemicals, and other basic commodities, are not impressed by appeals from Washington or even from far-sighted businessmen. They are out for all that the traffic will bear in a sellers' market. When the inevitable downturn occurs, they count on their monopolistic controls to enable them to ride out the storm with a minimum of price reductions, since they can make large profits even if their output falls considerably below current capacity levels. But consumers and the economy as a whole will pay a heavy price in lower living standards, wholesale bankruptcies of smaller businessmen and large-scale unemployment.

Rent control

The outlook for rent control two months before it expires on June 30th is anything but reassuring. Efforts to rush through a general rent increase have been stymied to date by public protest, but in both the House and the Senate moves are under way to destroy effective rent control.

Thus, the Senate Banking and Currency Committee unanimously approved a bill to extend rent control through February 29, 1948. But under the terms of the measure, administration of rent control would be transferred to the Housing Expediter, Frank R. Creedon, whose activity in liquidating the remnants of the veterans emergency housing program is anything but an assurance that he would enforce effective rent control. The Housing Administrator would be empowered, with the recommendation of state governors, to set up five-man local advisory boards in all of the more than 630 rent control areas. These local boards would have the authority to recommend decontrol or rent increases on an area-wide basis. These recommendations would become final unless reversed by the Housing Expediter within 30 days. New housing and dwelling units placed in the rental market for the first time would be decontrolled. Finally, existing OPA safeguards against evictions would be eliminated.

The great danger confronting tenants is the weakening of controls, leading to their speedy destruction. The bill approved by the Senate Banking and Currency Committee would pave the way for decontrol and rent increases on an area by area basis. Once the line was broken in one region, it would set a precedent for raising rents or decontrolling them in other areas. Long before the premature expiration date on February 29, 1948, rent control would have been destroyed in most if not all parts of the country.

Moreover, decontrolling new rental units would increase the pressure for general decontrol. Past experience with price control has demonstrated that decontrol in one sector simply develops irresistible pressure for the complete abandonment of all controls. Landlords of existing rental units would not accept controls if there was no limit on the rents charged by landlords of new dwelling units.

Wholesale evictions would also develop as the result of the elimination of national Federal safeguards. Tenants resisting rent increases would receive eviction notices under loosely drawn state and municipal laws, and these tenants would not have the support of OPA's regulations and enforcement powers.

The fact is that nothing short of continuation of rent control for at least one year beyond June 30th can meet the present emergency. President Truman has belatedly called on Congress to enact a one-year extension, and

his statement, which follows, shows the urgent need for this action:

"Despite the rapid upswing in residential construction during 1946, the nation is still faced with a critical housing shortage.

"In 88 cities surveyed by the Bureau of Labor Statistics and the Bureau of the Census during 1946, vacancies in rental units were virtually nonexistent. The vacancy rates in habitable accommodations for these cities ranged from zero to a maximum of one percent, with an average well below one-half of one percent.

"Proper protection of millions of our American families requires that effective rent and eviction control be extended beyond June 30, 1947, for a further period of one year and I so recommend."

Taxes

The House of Representatives has passed a "sweetened" version of the Knutson tax reduction bill. In the form passed by the House, the Knutson bill provides for a 30% cut on the first $1000 of taxable income, 20% on taxable incomes up to $302,000, and 10% thereafter.

The 30%–20%–10% Knutson bill gives the appearance of graduated tax cuts. But actually it would give enormous windfalls to the top-income groups, while the great majority of taxpayers would receive only insignificant tax savings.

For example, the average factory worker at present is earning about $47 a week, or around $2444 a year. Under the House version of the Knutson bill, he would receive a tax saving of only $12.48. His take-home pay after taxes would be increased by less than one-half of one percent. But the corporation executive receiving $300,000 dollars a year would get tax savings of $46,654. His take-home pay after taxes would be increased 61%.

Consumers Union supports the Murray-Engel tax bill. This bill would raise the exemption of single persons from $500 to $1000 and of married couples from $1000 to $2000, while continuing the present exemption of $500 for children and dependents.

Gardening

Some New Insecticides

CU's garden consultant summarizes expert opinion on a number of new garden insecticides and fungicides

Many new discoveries in insecticides and fungicides are competing for the attention of gardeners. Since these materials are new, their potentialities and limitations are not yet fully known, but here are a few notes which will serve as either a guide or a warning, as the case may be.

Ryanex dust or spray is a nonpoisonous material made from the tropical plant *Ryania speciosa* by Merck & Co., Rahway, N. J., and is sold only in very large packages at present. It is highly effective against the European corn borer (but not the corn ear worm), and reduces losses from corn ear smut by 50% to 80%. Four or five applications are made at five day intervals. About 30 to 35 lb. of *Ryanex* dust per application is enough for an acre. The cost for a 50 lb. bag is 15¢ to 18¢ a pound, and it will keep in dry storage for three seasons. If you are interested, see Circular No. 486, N. J. Agricultural Experiment Station, New Brunswick, N. J. or Circular No. 176, N. Y. Agricultural Experiment Station, Ithaca, N. Y., for detailed directions.

D-D (dichloropropene and dichloropropane). In all sections where nematodes are a menace, *D-D* mixture will be for sale, and if there are nematodes in your soil and you still want a garden you *must* use it.

Nematodes are widespread in California, and preliminary surveys show that about 80% of the arable land in Florida, Mississippi, Louisiana, New Mexico and Arizona is infested, and more than 60% of the land in Washington, Oregon and Idaho. Half the counties in the Mid-West show some infestation, and a 1500-acre tract near Hicksville, Long Island, has been quarantined. The possibility of importing nematodes into your garden on plants grown in the South or other nematode-infested areas is very real.

Nematodes are tiny eel-like worms $\frac{1}{64}$th to $\frac{1}{25}$th of an inch long which are known to attack 1500 plant species. They attack the roots of vegetables, flowers and shrubs (especially boxwood), tobacco, citrus fruits, peaches and pineapples, so that the plants cannot absorb nourishment from the soil. If your garden is doing poorly and no disease or insect seems to be re-

sponsible, uproot a few plants and show them to the county agent or send them to the State Agricultural Experiment Station.

D-D was discovered in the attempt to save the pineapples of Hawaii. It is used as a fumigant, and a 2000 sq. ft. area can be treated for a little less than $6. Prepare the soil well, as for planting, then make holes 6 inches deep, staggered 18 inches apart, and pour ⅓ oz. *D-D* into each hole. Take care not to spill any on the skin, because it burns if not washed off at once with soap and water; and don't spill any on the clothes or on living plants. Wait two weeks before planting a crop.

Sabadilla is sold as *Sabacide* (McConnon & Co., Winona, Minn.) and it is the active ingredient in Wilson's *Chinch-O*. It is made from the seed of Sabadilla, a Mexican plant. As a 10% dust or spray it is very effective against cabbage worms, squash vine borers, squash stink bugs (both nymphs and adults, and this makes it unique), Mexican bean beetles, tarnished plant bug, Lygus plant bug, and chinch bugs in lawns. But — it causes such violent sneezing that few people care to try it a second time without a respirator.

Salp (sodium antimony lacto phenolate) is effective against thrips and leaf rollers. It is used as a substitute for tartar emetic but is said to give better control in hot dry periods. However, when used just before dry hot weather it is likely to injure tender foliage. For thrips it must be repeated every ten days and after every rain or overhead watering. For rose thrips which attack the buds, just mist the air above the plants so that it will settle. Warning: the sprayer must be absolutely clean. *Salp* is poisonous, therefore it must not be used on the edible parts of the vegetables.

DDT is like the "little girl who had a little curl, right down the middle of her forehead," when *DDT* is good it is very, very good, but when it is bad it is horrid! It is better than any other insecticide against Japanese beetle, both beetles and grubs, rose chafers, plant bugs, blister beetles, leaf hoppers, flea beetles and gypsy moth caterpillars; and research workers are still exploring its possibilities. But — after spraying or dusting for one of these insects you are very likely to find the garden overrun with red spider and aphids, even though you thought there were none before you used the *DDT*. The explanation is that *DDT* has killed the natural enemies of these pests. The use of *DDT* has brought an enormous increase in potato yields, but it injures strawberry plants and some vegetables (e.g., young tomato plants), and since it is a cumulative poison and very hard to wash off, there is little use for it in the vegetable garden, and against fruit pests its usefulness is severely limited. It spots flowers. Birds that eat insects killed by *DDT* are poisoned. Bees, the pollinators of fruits, flowers and vegetables, are poisoned, and though *DDT* does not kill off the whole swarm as lead arsenate does, there are nonpoisonous insecticides which *are* safe, and at least as effective as *DDT* against many pests.

The conclusion seems to be that *DDT* should be used only for sudden outbreaks of specific pests which cannot be controlled by other means, with full understanding of the possible consequences. Rotenone, pyrethrum, and nicotine sulfate are still the gardener's most reliable insecticides.

DDT comes under a variety of trade names — *Deenate, Gesarol*, etc. Read the labels to make sure they contain the right percentage of *DDT*. A 3% to 5% dust, 50% wettable powder, and a 10% dust for grub-proofing lawns, are the best forms for general outdoor use. Don't use household *DDT* sprays or aerosol bombs in the garden, because they injure foliage. Aerosol bombs are safe on greenhouse plants if used properly, but the aerosol must be directed into the air and allowed to settle rather than blown directly onto the plants. There is much yet to be learned about *DDT* bombs for greenhouse use.

Benzene hexachloride (666, Hexachlorocyclohexane, Gam-Tox, Gam-mexane) will be sold to small consumers for the first time this Spring. It kills aphis and other soft-bodied insects and should give excellent control of scale crawlers, but is not outstanding for these purposes. However, it kills cabbage maggots better than any other insecticide, kills wire worms on potatoes, kills flies even better than *DDT*, and is less poisonous. Its chief drawback is a very offensive odor which lingers where it was used for about one month.

Zerlate, a new fungicide, protects against the early but not the late blights of tomatoes and potatoes, leaf blight on celery, leaf spots and anthracnose on tomatoes, leaf spots on cucurbits (cucumbers, squash, melons, etc.), and brown rot of peaches, and it repels cucumber beetles (which transmit cucumber wilt) and repels Japanese beetles from peaches for one to ten days. It is effective against certain lawn diseases — copper spot and large (not small) brown patch. Not available yet in small packages.

Fermate, a fungicide dust or spray, has little place in the vegetable garden, and is ineffective against such a common disease as mildew. But it is very toxic to the spores of cedar apple rust (which attacks red cedars and apples, including American varieties of flowering crabapples), and to quince rust and the hawthorn rust on apples. It protects against grape diseases and is the best fungicide yet for black spot on roses. It is not effective against lawn diseases. In the rose garden a dust of 10% *Fermate* and 90% dusting sulfur will take care of both black spot and mildew. When the weather is hot the sulfur may burn foliage, and a dust of 10% *Fermate* and 90% talc is safer.

by Simon Breines and Ralph Pomerance, architects

The Cost of "Inexpensive" Houses

The optimism of popular magazine writers who say you can build cheaply isn't always justified by the facts

The past ten years have seen many advances in the art of planning and building a house. The man who has money enough and imagination enough to take advantage of the new developments in design, materials, and equipment can have a better house today than was possible before the war. The trouble is that the rising costs of construction, land, and equipment (heating, plumbing, electrical, etc.) have priced most people out of the small house market.

In future articles, as in our previous article, we shall continue to examine this problem, particularly building costs, from various angles. Attention will be given to the multiple dwelling — the apartment house, the row house, and the large scale, garden-type project. The cooperative idea as applied to the multiple dwelling and the small house will also come in for scrutiny. In this article, however, we shall confine ourselves to the examination of three houses featured in current issues of popular magazines.

To begin with, these three houses are better than average. They are not of the usual speculative builder-type, nor are they of the stock plan "build your own

You, too, can build this house for $4500 if you have the right talents and the right friends

home" variety, both of which, incidentally, will be discussed at a later date. The following houses are all architect-designed and of such quality as to justify the attention given them by the magazine editors. Our purpose in selecting these particular examples was not to underscore their merits but rather to determine whether the hopes aroused in the reader by the cost figures given for the three houses are realistic or illusory. In other words, can admittedly good houses such as these be built or purchased today for the prices suggested by the magazines?

The "American Home" house

Here is a house which, the article tells us, two ex-marines have just built for $4500. As the picture shows, it is a reality and therefore doubly impressive. The question is, can anyone else duplicate this feat or is it a very special case?

The house without the car shelter contains about 540 square feet, making the cost about $8 per square foot. Considering the amount of plumbing, heating and other mechanical work for such concentrated space, this cost seems remarkably low even for California. Perhaps part of the explanation is that the owners, with the assistance of G.I. friends, provided most of the labor involved. Was this labor paid for at prevailing rates? In this instance, one of the owners happened to be an architect and the other an engineer. The average man would have to pay for such technical service, and since he could not be expected to provide his own labor, he would have to engage a builder and even let him make a little profit.

So far as the design of this house goes, it is excellent and the plan is ingenious. But there seems to be regular sleeping space for only one person; the other presumably sleeps on the living room couch. In addition to the question of labor rates and builder's and architect's fees, the reader who intends to duplicate this "$4500 Dream House" should also not overlook the cost of land, utilities (water, sewage, etc.), and landscaping. More power to the two young men who built this house. It is open to question, however, whether "through their efforts the hopes of many discouraged G.I.'s are getting a blood transfusion."

The "House Beautiful" house

The answer to the demand for a conventional home which can be bought complete with land, ready to be occupied, seems to have been found by the Kaiser Community Homes project on the West Coast. As of the date of the April issue of *House Beautiful*, Henry Kaiser was offering a three-bedroom house in this community for $8650. The same house would cost about 10% or 15% more to build in any of the large metropolitan areas, but it is much better than the product currently being offered in such areas. Of the many houses seen and studied by the authors, this Kaiser dwelling would seem to be about the "Best Buy."

It is well-built and the equipment is apparently first rate. Lack of a clothes closet near the front entrance appears to be the only serious flaw in the plan. Closets are ample, but with no cellar or attic, more generous storage space would seem desirable. There also seems to be no provision for heating. Space for a boiler and chimney are conspicuously absent.

This Kaiser house with all its individual and community advantages is possible only because it is part of a large planned development of about 1000 units. But such developments are usually far from the big cities and so raise the problem of commuting. To try to duplicate one of the Kaiser houses in an urban area would probably involve a land cost far beyond anything included in the $8650 price.

Such large-scale community projects, with the economies resulting from rationalization and industrialization of the building process and from centralized planning,

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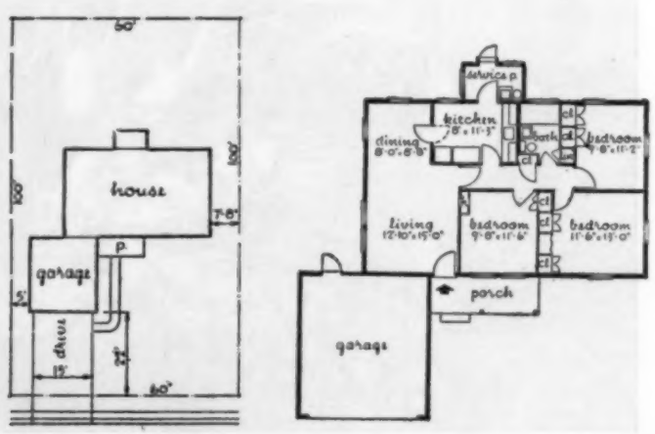
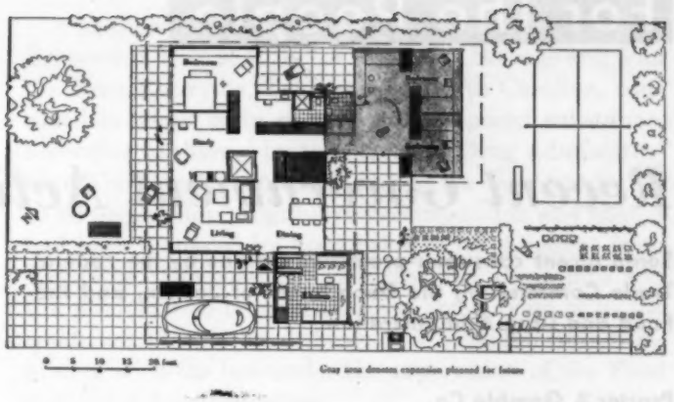
It would cost a good deal more than $8650 to duplicate this Kaiser *house in an urban area, but it's still a "Best Buy."*





This house, sponsored by House and Garden *and Harvard University is supposed to cost $10,000 or less. The design is excellent but the cost of the house in the picture would probably be closer to $20,000.*

will probably be the answer for the man who is willing to commute or who works in a satellite town. For the present, it cannot be a solution to the truly urban problem with its high land costs nor the small town problem where only a relatively few new units are needed.

Despite its conventional appearance, the Kaiser house is among the better of the prefabricated or industrialized dwellings thus far offered to the public on any large-scale and in community form. But even if such houses were made available in Northeastern and Middle Western urban areas, the question of who could afford them is still important. Assuming an urban price of about $10,000 to $12,000 for the Kaiser house, the purchasers would have to be in the $5000-a-year or more income group. If that is the best that industrialized housing can offer, what provision can be made for those who can't afford what seems to be one of the most economical answers to the small house problem?

The "House and Garden" house

This design received first prize in a contest sponsored by *House and Garden* and Harvard University for the design of "a house for a young married couple that could be built for $10,000 or less, and to provide for future enlargement as the family and income increased."

The plan is excellent in many respects but would probably require adjustments to suit climatic and personal requirements. The large glass area facing south is very nice, but if it is 25 or 30 feet from the street, as seems to be the case here, the question of privacy arises. Such large glass areas demand a very fine heating system if the room is to be comfortable in cold climates.

This home contains about 1350 square feet (exclusive of the future bedrooms shown shaded).

The character of the windows and the interior design makes it doubtful that such a house in or near a metropolitan area could be built for $10,000. Current prices in such areas indicate a cost of at least $10 a square foot for the simplest type of box house with holes punched in the walls for windows and doors, and with no provision for such niceties as fireplaces, terraces, landscaping, etc. What with land, utilities, car park, paved terraces (and there seems to be plenty of that), this house would probably come closer to $20,000 than $10,000.

Dream vs. reality

After a dose of the professional optimism of the small home magazines, the unhappy reality of building costs is a hard pill to swallow. We do not mean to disparage the several houses as such. They happen to be excellent examples of their kind, and for those persons who can accommodate themselves to current construction prices they would make very fine houses. The danger we warn against is that the careless disregard of true building costs may induce some people to embark on a venture which will involve more money than they thought was required. To these people we can only say, get competent technical advice and accurate local estimates before going ahead.

progress report

work on the following reports is now under way:

- vacuum cleaners
- fm radios
- electric clocks
- electric fans
- portable radios
- radio batteries
- frozen foods
- scouring powder
- hand cleaners
- men's shirts
- motor oils
- can openers

Recent Government Actions

Some recent consumer-protective actions by the Federal Trade Commission, the Department of Justice, and the Food and Drug Administration

Procter & Gamble Co.

Additional hearings have recently been held by the Federal Trade Commission on its complaint against the Procter & Gamble Co. in connection with the advertising of *Teel*. This pink liquid dentifrice has been advertised as a "revolutionary discovery" and as a harmless substitute for ordinary tooth pastes and powders which, the company claims, cause cavities.

In its complaint, Docket No. 4937 initiated April 2, 1943, the Federal Trade Commission charges that Procter & Gamble disseminated false and misleading advertising in an effort to increase sales. Pointing out that *Teel* is merely a solution of glycerine, sugar, alcohol, water, and sodium alkyl sulfate, together with coloring, flavoring, and thickening agents, the FTC states that sodium alkyl sulfate is a sulfated higher alcohol having detergent qualities similar to those of soap.

The FTC, in refuting the extravagant claims for *Teel*, says, "Abrasion arising through the use of the popular brands of tooth pastes and powders does not commonly cause dental cavities which require filling, and no large proportion of the public expose their teeth to serious damage or injury by the use of tooth pastes and powders in popular use. Respondent's product is not a revolutionary discovery in dental science, as liquid dentifrices possessing similar properties have been on the market for many years." Furthermore, says FTC, *Teel* "does not and cannot clean teeth 'utterly' or to the highest degree as it cannot be depended upon to prevent the depositions of stains and mucin placques on the teeth.

"It is not a complete and satisfactory substitute for tooth pastes and powders in common use since, having no abrasive qualities, it cannot as effectively clean teeth. It is inferior as a cleansing and polishing agent to many of the popular brands of tooth pastes and powders on the market. Furthermore, the use of said product permits discoloration of the teeth, which can only be removed by a substance having abrasive qualities."

Although this case has been dragging on for four years, information received from the Federal Trade Commission indicates that the Procter & Gamble Co. will continue to bring additional witnesses, further postponing the conclusion of the case.

The Rexall Drug Company

"One-Cent Sales" are a thing of the past in the Rexall Stores, according to statements made by the Liggett Drug Company and the Owl Drug Company, subsidiaries of Rexall Drug Company.

In their answer to Federal Trade Commission charges of price misrepresentations in "Factory-to-You Sales" and "One-Cent Sales," the companies stated that they have not conducted such sales since July, 1944, and have no intention of resuming them.

The Government's complaint alleged that "the respondents misrepresent the extent of price reduction by advertising as 'regular prices,' amounts that are 'substantially higher' than the usual selling prices, thus misleading the public."

The Rexall Drug Company and its subsidiaries deny the Government's allegation. Hearings will be held in the future.

Columbia Steel Company, a Subsidiary of the United States Steel Corp.

A suit was recently filed against the Columbia Steel Co. by the Justice Department to enjoin the company from purchasing the entire fixed assets, inventories, and good will of Consolidated Steel Corp. on the ground that such purpose would violate the Sherman Antitrust Act.

The suit charged that by purchasing Consolidated Steel, which had net sales of over $91,000,000 for the year ending August 31, 1946, the defendants would eliminate substantial competition in the sale of rolled steel products and fabricated steel products.

In announcing the filing of the suit, Attorney General Tom C. Clark said, "The country is in the midst of a corporate merger movement of tremendous significance. The Department of Justice is attempting to examine every substantial corporate merger, or proposed merger, for the purpose of determining whether such mergers will restrain or monopolize trade in violation of the antitrust laws."

The following companies were named as defendants in this suit: Columbia Steel Company, San Francisco, California; Consolidated Steel Corporation, Los Angeles, California; United States Steel Corporation, New York; and United States Steel Corp. of Delaware, Pittsburgh, Pennsylvania.

The following are recent actions taken by the Food and Drug Administration.

Royal Crown Cola

The Nehi Beverage (Nevada) Co. was fined $300 because samples of the well-known soft drink, *Royal Crown Cola*, which it manufactures, were found to be adulterated. The Food and Drug Administration charged that the Cola contained unidentified dirt and that it had been prepared or packed under unsanitary conditions. The defendant did not dispute the charge and the court imposed the fine.

Burry Biscuit Co.

Burry's Crisp Brown Bix, shipped from New Jersey to New York by the Burry Biscuit Co., consisted in whole or in part of a filthy substance, according to an uncontested charge by the Food and Drug Administration. The Government claimed that the product contained insect fragments, mammalian hair fragments, and nondescript dirt. Since no claimant appeared, the crackers were condemned and destroyed.

Brock Candy Co.

The Brock Candy Co., manufacturers of popular five-cent candy bars, admitted the deceptive packaging of *Brock . . . A Nut Roll Enrobed in a Delicious Coating . . . Chocolate Covered Nut Roll.* The Food and Drug Administration stated that the candy, a chocolate coated roll, containing peanuts, was placed on a cardboard strip ⅜ inch wider than the candy. Then it was loosely wrapped in a printed yellow glassine wrapper, in such way as to give the impression that the candy bar was much larger than was actually the case. The Brock Candy Co. admitted the allegations and the candy was released under bond to be repackaged and relabeled under the supervision of the Food and Drug Administration.

Swift and Co.

Cheddar cheese, shipped by Swift and Co. from Springfield, Missouri, to Kansas City, was found to contain less milk fat than is permissible by law. The Food and Drug Administration declared that the product failed to conform to the standards for Cheddar cheese since it contained less than the minimum of 50% milk fat. The product was taken off the market and distributed to charitable organizations.

Pet Irradiated Evaporated Milk

A shipment of almost 103,000 cans of *Pet Irradiated Evaporated Milk* sent by the Fireproof Storage and Van Co. from Knoxville, Tennessee to North Carolina, consisted in whole or in part of a decomposed substance, according to charges by the Food and Drug Administration. The Government claimed that the milk was found to be undergoing progressive decomposition and that it had been damaged by flood prior to its shipment from Knoxville. The company admitted the allegations and the product was ordered released under bond with the condition that it be destroyed or brought into compliance with the law under the supervision of the Food and Drug Administration.

Gorton-Pew Co., Ltd.

Quickly Frozen . . . Gold Seal Brand Cod Fillets, shipped by the Gorton-Pew Co., Ltd., from Gloucester, Mass., to Rochester, N. Y., were found to consist in whole or in part of a decomposed substance. The product was ordered destroyed.

The Food and Drug Administration also found that *Quickly Frozen Rosefish . . . Packed by Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass.*, and shipped from Pittsburgh to Michigan by the Little America Finer Frosted Foods Co., consisted in whole or in part of a decomposed substance. The product was ordered destroyed.

Eau de Quinine Compound Hair Lotion

Examination of *Eau de Quinine Compound Hair Lotion* by the Food and Drug Administration showed that it contained "an inconsequential amount of quinine." The product consisted essentially of water, alcohol, perfume, and a red coloring matter, together with not more than 0.02% of quinine. The Government contended that the label designation was false and misleading since it suggested that substantial quantities of quinine were present. The product was ordered destroyed.

Hubere Hair Lacquer and Hair Lacquer Pads

The Food and Drug Administration charged that "the hair lacquer pads contained a poisonous and deleterious substance which might have rendered them injurious to users under the following conditions of use prescribed on the labels: 'To preserve that well-groomed appearance at those very important moments when that strand of hair or loose curl goes astray. . . . A gentle pat or brush with one of these delicately scented pads restores immediately that perfect appearance so necessary'."

Hubere Cosmetics having entered a plea of *nolo contendere*, the court imposed a fine of $10 on each count, a total fine of $100 plus costs.

The Shape of Things

by Eliot F. Noyes

Refrigerators

With many simple objects of everyday use, the design expression or appearance is the most important factor determining a selection. Where mechanical appliances happen to be rated as having about equal efficiency, appearance may well be the basis for the consumer's decision as to which one to buy. In complex mechanisms such as refrigerators, which we shall discuss, the appeal of a pretty face should not cause one to buy an inefficient machine; but in such cases we can at least analyze and recognize the good and bad points of design.

The exterior shape of refrigerators has become pretty much standardized as a more or less rectangular mass with a slightly curved top. No manufacturer seems to vary from this formula very much. The curved top may be a pleasant shape, but there are few housewives who do not use the top of the refrigerator as a storage shelf, and there are few who have not watched a bottle of milk slide off from this agreeable shape to its doom. There seems to be no justification in use for the manufacturers not making the top flat and developing it as a good safe place to store kitchen items. (Hotel refrigerators and old-fashioned iceboxes still do have flat tops and they are very useful.)

The sides and the top of most of the present designs furnish a smooth continuous surface which is easy to clean. One notable exception is the highly rated *General Electric* model B7-C, which has side and top panels constructed separately and meeting in a joint which is a possible dirt catcher. This also results in a complication of forms which detracts from the appearance of the design as a whole.

The main design expression of a refrigerator in a kitchen is its door face, and each manufacturer has tried to make a distinctive feature of it by using stamped forms in the surface, by applying flashy insignia, by developing a special handle, or by a combination of these means. In many cases there is an unmistakable and unhappy resemblance between some of these elements and the shiny streamlined chrome and plastic gadgets which turn up in profusion on automobiles. The *Kelvinator* has a large chromium bumper motif which is applied to the top of the door. The *Frigidaire* flaunts a regal motif which might have come from a General Motors radiator grille. The *Admiral* uses a particularly flashy colored plastic name panel and another similar slab above the handle. The base of the *Crosley* is a confused set of stamped forms which looks vaguely like an enlarged section of an old pressed metal ceiling. Such fancy business may be useful on the sales floor, but the housewife might prefer to dispense with all this personality in favor of surfaces easier to clean.

Handles are of interest since the housewife often comes to the refrigerator door with her hands full and is likely to be less impressed with banded chromium plaques than with ease of opening. In this feature, *Westinghouse* seems to come out well in front, with a handle in a swivel joint that opens the door when it is pulled, pushed, or bumped in any direction. In appearance, its simple shaft with plastic handle is a direct and attractive expression of its operation, and it avoids the stylistic excesses of many other machines. The *Kelvinator* handle is an interesting contradiction between form and function. The handle looks as if it were hinged at the left; it is somewhat disconcerting to find that it actually hinges at the right.

When we open the doors and look inside, the resemblance to automobile dashboards and details becomes even more marked. Aggressively stamped plastic faces, heavily ribbed chromium handles and decorative panels, green and gold and blue plastic dials and controls, and many other lively details fight for attention. Again, one of the offenders is the highly rated *General Electric* B7-C, which has a pretentious and inappropriate interior, even including little pictures in blue, white, and chromium on the faces of two containers.

On the other hand there are direct and handsome details in some interiors. Many of the ice trays are clean and simple. The *Westinghouse* has a good, flexible set of wire shelves. The *Philco* A721 has a simple system of metal trays, while the *Crosley* has glass shelves cleanly and simply edged in metal. Although none of these refrigerators can be completely and enthusiastically endorsed for design, the best all-round appearance is probably found in the *Westinghouse* B-7-46, which is also rated in the top group for performance.

ELIOT F. NOYES, writer of "The Shape of Things," received his master's degree in architecture from the Graduate School of Design of Harvard University. He was formerly Director of the Department of Industrial Design of the Museum of Modern Art in New York City, and is now with Norman Bel Geddes & Company as Design Director.

Notes on the New Records

CU's record consultant passes judgment on some of the new releases of both major and independent companies

BACH: English Suite No. 3 in G Minor. Alexander Borowsky (piano). Vox-Polydor Album 170 (three 10-inch records), $3.75. The Gavotte and Gigue from this, one of the most charming of Bach's keyboard suites, have long been popular favorites, thus making a complete recording of the work a doubly welcome item. Borowsky's playing is elegance itself; the recording, done in France during the late 30's is A-1.

BERNSTEIN: Fancy Free — Ballet: Galop, Waltz, Danzon. Boston Pops Orchestra under Arthur Fiedler. Victor 11-9386, $1. America's gifted composer-conductor-pianist has given us in this ballet of sailors on the town a peppery combination of Gershwin, Copland and Latin-Americana. Fiedler and the Pops come through with a brilliant performance; Victor, with brilliant recording.

BRITTEN: Serenade for Tenor, Horn and Strings. Peter Pears with Dennis Brain and the Boyd Neel String Orchestra under Benjamin Britten. Decca Album ED-EDA-7 (three 12-inch imported records), $7. England's brilliant young Benjamin Britten is represented for the first time in domestic American catalogs by this sensitive and beautifully evocative song-cycle to poems of Charles Cotton, Alfred Tennyson, William Blake, an anonymous 15th century poet, Ben Jonson, and John Keats. The terrifying "Dirge" and the setting of Keats' sonnet "To Sleep" are by themselves worth the price of the records. The performance, considering the enormous technical demands of the music, is remarkable; the recording, good.

CHOPIN: Piano Concerto No. 2 in F Minor, Op. 21. Artur Rubinstein with the NBC Symphony Orchestra under William Steinberg. Victor Album M-DM-1012 (four 12-inch records), $4.85. If you like your Chopin in sizable doses, you'll enjoy this youthful Piano Concerto to the full. Despite the numbering, it's the first and better of his two works in this form. Rubinstein is just the man to play it. Steinberg contributes a well-fashioned accompaniment; Victor, a well-managed recording job.

COPLAND: Lincoln Portrait. Boston Symphony Orchestra under Serge Koussevitzky with Melvyn Douglas (narrator). Victor Album M-DM-1088 (two 12-inch records), $2.85. Aaron Copland's musical evocation of the Great Emancipator is one of the most effective occasional compositions that we know, especially in its excellent middle-section development of folk and quasi-folk themes. However, we are not overly sold on either Dr. Koussevitzky's hectic and overemotional treatment of the orchestral part, nor on Mr. Douglas' rhetorical treatment of Lincoln's simple and straightforward utterance. For a more appropriate interpretation, we suggest the Columbia Album (X-266) with the N. Y. Philharmonic-Symphony under Rodzinski and Kenneth Spencer as narrator.

DVORAK: 'Cello Concerto in B Minor, Op. 104. Gregor Piatigorsky with the Philadelphia Orchestra under Eugene Ormandy. Columbia Album M-MM-658 (five 12-inch records), $6. A conscientious performance and fairly good recording of Dvorak's colorful and richly melodious masterpiece. However, in no respect can it stand comparison with the thrilling Victor set made some years ago with Pablo Casals and the Czech Philharmonic Orchestra under George Szell (Victor M-458).

FALLA: El Amor Brujo — Ballet (complete recording). Hollywood Bowl Symphony Orchestra under Leopold Stokowski with Nan Merriman (mezzo-soprano). Victor Album M-DM-1089 (three 12-inch records), $3.85. Pittsburgh Symphony Orchestra under Fritz Reiner with Carol Brice (contralto). Columbia Album M-MM-633 (three 12-inch records), $4. The late Manuel de Falla's colorful Spanish gypsy ballet gets two fine and long overdue modern recordings at the hands of both major disc companies this month. Reiner's treatment of the score is more incisive, while Stokowski offers more in the way of subtle tonal coloring and sensuous phrasing. The magnificence of the Hollywood-made recording also makes the Columbia set seem a little drab by comparison. However, it is in the rendition of the superb vocal solos that the difference between the two recorded versions of the music is most evident. For all her great gifts and natural beauty of voice, Carol Brice has not the grasp of Andalusian *cante hondo* style that Nan Merriman exhibits in such remarkable fashion on the Victor discs. For this reason, and because of the superior recording job, it is this set that we recommend.

FALLA: Nights in the Gardens of Spain. Clifford Curzon (piano) with the National Symphony Orchestra under Enrique Jorda. Decca Album ED-EDA-10 (three 12-inch imported records), $7. The three impressionist nocturnes for piano and orchestra by the late Spanish master receive a virtually definitive recorded performance on these discs. Curzon's solo work is superlative while the English Decca recording job is practically the best piano-and-orchestra reproduction we've ever heard.

GIORDANO: Andrea Chenier — "Nemico della patria," and **MEYERBEER:** L'Africana — "Adamastor, Re dell'acque profonde." Robert Merrill (baritone) with RCA Victor Orchestra under Jean Paul Morel. Victor 11-9384, $1. Merrill's rich voice and the fine orchestral accompaniment are magnificently recorded here. However, the singer lacks the dramatic flair that Ruffo exhibited in his ancient disc of the Meyerbeer aria or that John Charles Thomas had in his not too old version of the Andrea Chenier excerpt.

HANDEL: The Messiah (substantially complete recording). Huddersfield Choral Society and Liverpool Philharmonic Orchestra under Malcolm Sargent with Isobel Baillie (soprano), Gladys Ripley (contralto), James Johnston (tenor), Norman Walker (bass). Columbia Album M-MM-666 (nineteen 12-inch records in two volumes), $22.50. A tremendous accomplishment, this first really integral recording of Handel's mighty oratorio masterpiece! Only a few of the 53 numbers from the complete score are missing here, and they are almost invariably omitted in concert performances of The Messiah. The rendition here is very fine as regards the chorus and the orchestra, though the tempi could have stood a few more vitamins here and there. As for the soloists, the women make out far better than the men. The recording, made in the Town Hall at Huddersfield, England, is good.

ITALIAN ART SONGS: Giuseppe De Luca (baritone) with Pietro Cimara at the piano. Decca Album V-1 (three 12-inch Vinylite records), $7. What the eminent De Luca may lack vocally in his 73rd year, he more than makes up for in his mastery of style in the singing of these Italian songs of the 16th, 17th, and 18th centuries. However, we don't advise playing this album straight through without a break. Contents include Giordani's "Caro mio ben," "Bella fanciulla" by Falconieri, a Pergolesi Siciliana, "Dolce Madonna" from an anonymous pen, Caldara's "Selve amice," "Pur dicesti" by Lotti, "Amarilli" by Caccini, and a Recitative and Air by Bernardo Pasquini. The recording is good; Decca vinylite surfaces, excellent.

KHACHATURIAN: Gayane — Ballet (excerpts). N. Y. Philharmonic-Symphony Orchestra under EfremKurtz. Columbia Album M-MM-664 (three 12-inch records), $4. Eight dances, including the popular "Sword Dance" and "Lezghinka," are featured in this recording of music from the brilliant ballet by Soviet Armenia's gifted Aram Khachaturian. The playing of the N. Y. Philharmonic-Symphony is spirited; the recording, excellent.

LEONCAVALLO: Pagliacci — "Vesti la giubba," and **MASCAGNI:** Cavalleria Rusticanna — "Addio alla madre." Jussi Bjoerling (tenor) with Orchestra under Nils Grevillius. Victor 11-9387, $1. The Swedish tenor

is in fine dramatic form throughout Turiddu's farewell from Cavalleria. Some listeners may miss the customary ranting in the Pagliacci monologue, but Bjoerling's conception is a thoroughly valid one. The recording is good.

MOZART: Symphony in D (K. 133). Vox Chamber Orchestra under Edvard Fendler. Vox Album 171 (two 12-inch Vinylite records), $4.75. This unknown symphony by the 'teen age Mozart is a charming gem of a piece; and both Mr. Fendler and the enterprising Vox concern rate a vote of thanks from music lovers generally, and Mozart fans in particular. The performance is good; the recording, acceptable.

MOZART: Symphony No. 38 in D (K. 504) ("Prague"). St. Louis Symphony Orchestra under Vladimir Golschmann. Victor Album M-DM-1085 (three 12-inch records), $3.85. Not as well known as Mozart's three magnificent last symphonies, this "Prague" Symphony is fully their equal in tenderness and nobility of utterance. Victor's recording job is all to the good, but not so Golschmann's rather pallid reading. It has neither the eloquence nor the big line that distinguishes Beecham's fine Columbia set (M–509).

PALESTINE SONGS AND DANCES, JEWISH HOLIDAY SONGS AND DANCES. Chorus and Orchestra under Max Goberman. Vox Albums 196 and 197 (three 10-inch records each), $3.75 each. At the request of Corinne Chochem, the dance authority, Darius Milhaud, Leonard Bernstein, Ernst Toch, David Diamond and other outstanding contemporary composers supplied the settings of Jewish and Palestinian folksong recorded here. The result is a charming and altogether fascinating listening experience.

PERGOLESI: Stabat Mater (complete recording). Nottingham Oriana Choir and Boyd Neel String Orchestra under Roy Henderson with Joan Taylor (soprano) and Kathleen Ferrier (contralto). Decca Album ED-EDA-13 (five 12-inch imported records), $11. A first complete recording of Giovanni Pergolesi's celebrated liturgical piece. The solo singing of Kathleen Ferrier is remarkably fine. The performance as a whole is excellent, as is the recording.

PISTON: Introduction and Allegro for Strings and Organ. Boston Symphony Orchestra under Serge Koussevitsky with E. Power Biggs. Victor 11–9262, $1. Boston's leading composer, Walter Piston, has given us a fine little work here . . . one which combines manly tenderness and real Yankee vitality. The performance is tops, the recording excellent. A "must" record for those interested in contemporary American music.

RAVEL: Piano Concerto for the Left Hand. Jacqueline Blancard with the Paris Philharmonic Orchestra under Charles Muench. Vox-Polydor Album 168, $3.75. Victor's splendid recording of this passionate and colorful work with Cortot and the Paris Conservatory Orchestra under Muench (M-629) has been difficult to obtain for some years. So record buyers will doubtless be glad to have access to this Vox-Polydor album of about the same vintage. The recording is not quite as resonant as that of the Victor set, and Mme. Blancard adopts a pertly Parisian approach to the music as opposed to the more clangorous and dramatic treatment of Cortot.

STRAUSS: Death and Transfiguration, Op. 24. Philadelphia Orchestra under Eugene Ormandy. Columbia Album M-MM-613 (three 12-inch records), $4. A workmanlike, but generally uninteresting reading of Richard Strauss' much performed tone poem. The limited dynamic range of the recording only serves to heighten one's sense of disappointment in these discs.

SUPPE: Fatinitza Overture. Boston Pops Orchestra under Arthur Fiedler. Victor 11–9261, $1. This piece by the composer of "Poet and Peasant" is new to us. It's a light and spicy musical dish with a touch of Offenbach, Johann Strauss and "Turkish-Hungarian" music. One tune, especially, has served our Tin Pan Alley composers well in the not too distant past. Fiedler and his band serve the mixture up in fine style and with all the tonal trimmings. The recording is good, loud, but a trifle too reverberant.

TCHAIKOVSKY: Marche Slave, Op. 31. Hollywood Bowl Symphony Orchestra under Leopold Stokowski. Victor 11–9388, $1. The Victor catalog has needed a good new recording of this Tchaikovsky warhorse; but our reaction to Stokowski's pullings and haulings of tempo and phrasing on this disc was one of chagrin, to say the least. The orchestra's playing is ragged and the recording fuzzy to boot.

WAGNER: Prelude to Die Meistersinger. NBC Symphony Orchestra under Arturo Toscanini. Victor 11–9385, $1. Toscanini has been justly renowned for his reading of this marvelously extroverted bit of Wagneriana, and a recording of it has been long overdue. It is enough to say here that neither the "Maestro" nor the recording engineers have let us down with this disc.

cumulative index

• Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1947 Buying Guide issue. By supplementing the Buying Guide index with this one, readers can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1947 issue: Jan. 1–28, Feb. 29–56, Mar. 57–84, Apr. 85–132, May 133–180.

CU's Movie Poll

To help *Reports* readers get "Best Buys" for their movie money, CU presents movie ratings made up with the aid of some 2000 subscribers, most of them group leaders and members of CU's National Advisory Committee. Each participant is supplied with form postcards, and as soon as he sees a picture, he mails a card to CU, indicating whether he considers the picture "excellent," "good," "fair," or "poor." The tabulation below shows the percentage of replies in each category. For each picture, the category which received the largest vote is shown by an italic percentage figure. How the movie critics of several magazines and newspapers felt about the same pictures is indicated (to the extent that opinions of various critics can be summarized in a single rating) in the last column.

Picture	Stars	% Excellent	% Good	% Fair	% Poor	Critics' Rating
Angel on My Shoulder	Paul Muni Anne Baxter	23	*65*	6	6	G
Bachelor's Daughters	Gail Russell Menjou	13	*45*	17	25	G
Blue Skies	Bing Crosby Fred Astaire	26	*45*	23	6	G
Brief Encounter	Celia Johnson	*95*	0	5	0	E
Best Years of Our Lives	Fredric March Myrna Loy	*95*	0	5	0	E
Beginning or the End	Brian Donlevy Robert Walker	23	*48*	23	6	G
Boomerang!	Dana Andrews Jane Wyatt	*86*	14	0	0	E
Caesar and Cleopatra	Vivien Leigh Claude Rains	*48*	34	14	4	G
Crack-Up	Pat O'Brien Claire Trevor	0	21	*58*	21	G
Cockeyed Miracle	Frank Morgan Keenan Wynn	25	*60*	15	0	F
Chase, The	Robert Cummings Michele Morgan	6	*44*	38	12	P
California	Barbara Stanwyck Ray Milland	10	*50*	35	5	G
Dark Mirror	de Havilland Ayres	40	*54*	4	2	G
Decoy	Jean Gillie Edward Norris	5	5	*47*	43	P
Deception	Bette Davis Paul Henreid	24	*47*	13	16	G
Henry V	Laurence Olivier	*96*	4	0	0	E
Humoresque	Joan Crawford John Garfield	*41*	24	28	7	G
It's a Wonderful Life	James Stewart Donna Reed	*74*	23	3	0	E
I've Always Loved You	Philip Dorn Catherine McLeod	26	*42*	22	10	G
Jolson Story	Larry Parks Evelyn Keyes	*79*	20	1	0	E
Killers, The	Ava Gardner Burt Lancaster	39	*50*	11	0	E
Lady in the Lake	Montgomery Totter	17	*57*	23	3	G
Margie	Jeanne Crain Alan Young	36	*56*	8	0	G
Magnificent Doll	Ginger Rogers Burgess Meredith	*43*	17	31	9	E
Man I Love	Ida Lupino Robert Alda	0	*41*	*41*	18	P
My Darling Clementine	Linda Darnell Victor Mature	13	*57*	23	7	G
My Favorite Brunette	Lamour Hope	6	*77*	17	0	G
Nobody Lives Forever	Geraldine Fitzgerald John Garfield	19	*50*	19	12	F
Night and Day	Alexis Smith Cary Grant	*41*	*41*	12	6	E
Notorious	Bergman Cary Grant	34	*50*	13	3	G
No Leave, No Love	Van Johnson Pat Kirkwood	11	*47*	37	5	G
Nocturne	Lynn Bari George Raft	0	37	*48*	15	F
Nora Prentiss	Ann Sheridan Kent Smith	*58*	21	14	7	G
Open City	Aldo Fabrizi Anna Magnani	*70*	30	0	0	E
Plainsman and the Lady	William Elliot Vera Ralston	12	19	25	*44*	F
Razor's Edge	Gene Tierney Tyrone Power	*55*	34	24	7	G
Return of Monte Cristo	Britton Hayward	14	*45*	32	9	G
Song of the South	Walt Disney Cartoon	*49*	39	12	0	E
Strange Woman	Lamarr Sanders	13	*61*	18	8	G
Sister Kenny	Russell Knox	*56*	44	0	0	E
Shocking Miss Pilgrim	Betty Grable Dick Haymes	0	42	*47*	11	G
Secret Heart	Colbert Pidgeon	28	*50*	19	3	G
Show-Off	Red Skelton Marilyn Maxwell	6	*36*	29	29	G
Sweetheart of Sigma Chi	Phil Regan Elyse Knox	0	12	35	*53*	F
Sinbad the Sailor	O'Hara Fairbanks, Jr.	13	*54*	33	0	G
Two Years Before the Mast	Alan Ladd William Bendix	*27*	*27*	*27*	19	G
The Time, the Place, and the Girl	Dennis Morgan Janis Paige	23	*56*	14	7	P
Till the Clouds Roll By	Judy Garland Robert Walker	25	*51*	22	2	G
13 Rue Madeleine	James Cagney Annabella	33	*55*	12	0	G
Undercurrent	Hepburn Taylor	*44*	26	24	6	F
Verdict, The	Greenstreet Lorre	15	*60*	20	5	G
Welldigger's Daughter	Raimu Fernandel	*77*	23	0	0	E

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